RCA

Power Transistor Directory

RCA | Solid State Division | Somerville, NJ 08876

Optional Price 40 Cents

This edition of the Power Transistor Directory has been completely revised to reflect new product programs, as well as new product data. All product matrices have been up-dated to include the latest commercial types as well as preliminary data on developmental types. Furthermore, the product family classifications have been expanded to include the latest commercial RCA power transistors.

An important change in this Directory is the addition of two new product matrices and one new chart. The two new matrices show: (1) RCA's Epitaxial-Base Power Transistors, and (2) RCA's Monolithic Darlington Types. The chart shows Military-Specification Types. In addition, the Index to RCA Power Transistors has been expanded.

This edition, which replaces the Power Transistor Directory PTD-187B dated 10/70, is part of a continuing effort to keep you informed as to RCA's "state-of-the-art" in the silicon power transistor field.

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Index of RCA Transistor Families

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Developmental-type devices or materials are intended for engineering evaluation. The type designation and data are subject to change, unless otherwise arranged. No obligations are assumed for notice of change or future manufacture of these devices or materials.

P_T = 8.75 W max. I_c = 1.5 A max. (TO-5)*	P_T = 10 W max. I_c = 3.5 A max. (TO-5)*	P_T = 36 W max. I_c = 4 A max. VERSAWATT (TO-220)	P_T = 50 W max. I_c = 7 A max. VERSAWATT (TO-220)	P_T = 75 W max. I_c = 16 A max. VERSAWATT (TO-220)	P_T = 50 W max. I_c = 3 A max. (TO-66)**	P_T = 50 W max. I_c = 4 A max. (TO-66)**	P_T = 150 W max. I_c = 10 A max. (TO-3)	P_T = 150 W max. I_c = 15 A max. (TO-3)	P_T = 250 W max. I_c = 16 A max. (TO-3)	P_T = 250 W max. I_c = 30 A max. (TO-3)	P_T = 300 W max. I_c = 80 A max. (Modified TO-3)■
40347 V_{CEV}(sus) = 60 V h_{FE} = 25-100 @ 450 mA f_T = 1.5 MHz typ. File No. 88	**2N5786** V_{CER}(sus) = 45 V h_{FE} = 20-100 @ 1.6 A f_T = 1 MHz min. CT File No. 413	**2N5295** **2N5296** V_{CER}(sus) = 50 V h_{FE} = 30-120 @ 1 A f_T = 0.8 MHz min. CT File No. 322	**2N5491** **2N5490** V_{CER}(sus) = 50 V h_{FE} = 20-100 @ 2 A f_T = 0.8 MHz min. CT File No. 353	**2N6102** **2N6103** V_{CER}(sus) = 45 V h_{FE} = 15-60 @ 8 A f_T = 0.8 MHz min. I_c = 16 A max. File No. 485	**2N6263** V_{CER}(sus) = 130 V h_{FE} = 20-100 @ 0.5 A f_T = 1.2 MHz typ. P_T = 20 W File No. 529	**40250** V_{CEV}(sus) = 50 V h_{FE} = 25-100 @ 1.5 A f_T = 1.2 MHz typ. P_T = 29 W CT File No. 112	**2N4347** V_{CEV}(sus) = 140 V h_{FE} = 20-70 @ 2 A f_T = 0.8 MHz typ. P_T = 100 W CT File No. 528	**40251** V_{CEV}(sus) = 50 V h_{FE} = 15-60 @ 8 A f_T = 1 MHz typ. P_T = 117 W CT File No. 112	**2N4348** V_{CEV}(sus) = 140 V h_{FE} = 15-60 @ 5 A f_T = 0.7 MHz typ. P_T = 120 W I_c = 10 A File No. 526	**2N6257** V_{CER}(sus) = 45 V h_{FE} = 15-75 @ 8 A f_T = 0.6 MHz min. P_T = 150 W I_c = 20 A File No. 525	**2N5575** (Pins) **2N5576** (Lugs) **2N5577** (Braid) V_{CEO}(sus) = 50 V h_{FE} = 10-40 @ 60 A f_T = 0.4 MHz min. File No. 359
40348 V_{CEV}(sus) = 90 V h_{FE} = 30-125 @ 300 mA f_T = 1.5 MHz typ. 88	**2N5785** V_{CER}(sus) = 65 V h_{FE} = 20-100 @ 1.2 A f_T = 1 MHz min. CT 413	**2N5297** **2N5298** V_{CER}(sus) = 70 V h_{FE} = 20-80 @ 1.5 A f_T = 0.8 MHz min. CT 322	**2N5495** **2N5494** V_{CER}(sus) = 50 V h_{FE} = 20-100 @ 3 A f_T = 0.8 MHz min. CT 353	**2N6098** **2N6099** V_{CER}(sus) = 65 V h_{FE} = 20-80 @ 4 A f_T = 0.8 MHz min. I_c = 10 A max. 485	**2N3441** V_{CER}(sus) = 150 V h_{FE} = 25-100 @ 0.5 A f_T = 1.2 MHz typ. P_T = 25 W CT 529	**2N6260** V_{CEV}(sus) = 50 V h_{FE} = 20-100 @ 1.5 A f_T = 0.8 MHz min. P_T = 29 W 527	**2N3442** V_{CEV}(sus) = 160 V h_{FE} = 20-70 @ 3 A f_T = 0.8 MHz typ. P_T = 117 W 528	**2N6253** V_{CER}(sus) = 55 V h_{FE} = 20-70 @ 3 A f_T = 0.8 MHz min. P_T = 115 W 524	**2N3773** V_{CEV}(sus) = 160 V h_{FE} = 15-60 @ 8 A f_T = 0.7 MHz typ. P_T = 150 W I_c = 16 A 526	**2N3771** V_{CER}(sus) = 45 V h_{FE} = 15-60 @ 15 A f_T = 0.8 MHz min. P_T = 150 W I_c = 30 A 525	**2N5578** (Pins) **2N5579** (Lugs) **2N5580** (Braid) V_{CEO}(sus) = 70 V h_{FE} = 10-40 @ 40 A f_T = 0.4 MHz min. 359
40349 V_{CEV}(sus) = 160 V h_{FE} = 30-125 @ 150 mA f_T = 1.5 MHz typ. 88	**2N5784** V_{CER}(sus) = 80 V h_{FE} = 20-100 @ 1 A f_T = 1 MHz min. CT 413	**2N5293** **2N5294** V_{CER}(sus) = 75 V h_{FE} = 30-120 @ 0.5 A f_T = 0.8 MHz min. CT 322	**2N5493** **2N5492** V_{CER}(sus) = 65 V h_{FE} = 20-100 @ 2.5 A f_T = 0.8 MHz min. CT 353	**2N6100** **2N6101** V_{CER}(sus) = 75 V h_{FE} = 20-80 @ 5 A f_T = 0.8 MHz min. I_c = 10 A max. 485	**2N6264** V_{CER}(sus) = 170 V h_{FE} = 20-60 @ 1 A f_T = 1.2 MHz typ. P_T = 50 W 529	**2N3054** V_{CER}(sus) = 60 V h_{FE} = 25-100 @ 0.5 A f_T = 0.8 MHz min. P_T = 25 W CT 527	**2N6262** V_{CEV}(sus) = 170 V h_{FE} = 20-70 @ 3 A f_T = 0.8 MHz min. P_T = 150 W 528	**2N3055** V_{CER}(sus) = 70 V h_{FE} = 20-70 @ 4 A f_T = 0.8 MHz min. P_T = 115 W CT 524	**2N6259** V_{CER}(sus) = 160 V h_{FE} = 15-60 @ 8 A f_T = 0.6 MHz min. P_T = 250 W I_c = 16 A 526	**2N3772** V_{CER}(sus) = 70 V h_{FE} = 15-60 @ 10 A f_T = 0.8 MHz min. P_T = 150 W CT 525	
			2N5497 **2N5496** V_{CER}(sus) = 80 V h_{FE} = 20-100 @ 3.5 A f_T = 0.8 MHz min. CT 353			**2N6261** V_{CER}(sus) = 85 V h_{FE} = 25-100 @ 1.5 A f_T = 0.8 MHz min. P_T = 50 W 527		**2N6254** V_{CER}(sus) = 85 V h_{FE} = 20-70 @ 5 A f_T = 0.8 MHz min. P_T = 150 W 524	**TA8243** V_{CER}(sus) = 120 V h_{FE} = 30-150 @ 6 A f_T = 2 MHz typ.	**2N6258** V_{CER}(sus) = 85 V h_{FE} = 20-60 @ 15 A f_T = 0.6 MHz min. P_T = 250 W I_c = 30 A 525	

*Available with:
a. flange for easy heat sinking $R_{\theta JC}$ = 15° C/W
b. free-air radiator $R_{\theta JA}$ = 40-50° C/W

**Available with free-air radiator $R_{\theta JA}$ = 30° C/W.

■Also available with integral heat spreader.
Stud adapter scheduled for commercial announcement.

"TA" designations (e.g. TA8243) in this booklet are Developmental-Type devices.

File No. (e.g. File No. 88), where shown, relates to the data bulletin.

CT—Complementary Type available, see matrix on Complementary-Pair Power Types, page 9.

I_C to 80 A . . . P_T to 300 W . . . V_{CE} to 170 V
HOMETAXIAL-BASE N-P-N POWER TYPES

P-N-P POWER TYPES

I_C to −15 A . . . f_T to 60 MHz . . . P_T to 125 W

P_T = 7 W max. I_c = −1 A max. (TO-5)*	P_T = 10 W max. I_c = −1 A max. (TO-5)*	P_T = 10 W max. I_c = −2 A max. (TO-5)*	P_T = 10 W max. I_c = −3.5 max. (TO-5)*	P_T = 25 W max. I_c = −2 A max. Plastic TO-5)	P_T = 35 W max. I_c = −5 A max. (TO-66)**	P_T = 40 W max. I_c = −6 A max. (TO-66)**	P_T = 40 W max. I_c = −7 A max. VERSAWATT (TO-220)	P_T = 75 W max. I_c = −12 A max. VERSAWATT (TO-220)	P_T = 125 W max. I_c = −15 A max. (TO-3)
2N4037 $V_{CER}(SUS)$ = −60 V h_{FE} = 50-250 @ −150 mA f_T = 60 MHz min. CT File No. 216	**2N5415** $V_{CEO}(SUS)$ = −200 V h_{FE} = 30-150 @ −50 mA f_T = 15 MHz min. CT File No. 336	**2N5323** $V_{CER}(SUS)$ = −65 V h_{FE} = 40-250 @ −500 mA f_T = 50 MHz min. CT File No. 325	**2N5783** $V_{CER}(SUS)$ = −45 V h_{FE} = 20-100 @ −1.6 A f_T = 8 MHz min. CT File No. 413	**2N6181** "Plastic 2N5323" $V_{CER}(SUS)$ = −65 V h_{FE} = 40-250 @ −500 mA f_T = 50 MHz min. CT —	**2N6211** $V_{CER}(SUS)$ = −250 V h_{FE} = 30-175 @ −1 A f_T = 20 MHz min. CT File No. 507	**2N5956** $V_{CER}(SUS)$ = −45 V h_{FE} = 20-100 @ −3 A f_T = 5 MHz min. CT File No. 435	**2N6110** **2N6111** $V_{CER}(SUS)$ = −40 V h_{FE} = 30-150 @ −3 A f_T = 10 MHz min. CT File No. 488	**TA8328** $V_{CER}(SUS)$ = −50 V h_{FE} = 30-150 @ −6 A f_T = 5 MHz typ. CT	**2N6246** $V_{CER}(SUS)$ = −65 V h_{FE} = 20-100 @ −7 A f_T = 10 MHz min. CT File No. 533
2N4036 $V_{CER}(SUS)$ = −85 V h_{FE} = 40-140 @ −150 mA f_T = 60 MHz min. CT 216	**2N5416** $V_{CER}(SUS)$ = −350 V h_{FE} = 30-120 @ −50 mA f_T = 15 MHz min. CT 336	**2N5322** $V_{CER}(SUS)$ = −90 V h_{FE} = 30-130 @−500 mA h_{FE} = 10 min. @ −1 A f_T = 50 MHz min. CT 325	**2N5782** $V_{CER}(SUS)$ = −65 V h_{FE} = 20-100 @ −1.2 A f_T = 8 MHz min. CT 413	**2N6180** "Plastic 2N5322" $V_{CER}(SUS)$ = −90V h_{FE} = 30-130 @ −500 mA h_{FE} = 10 min. @ −1 A f_T = 50 MHz min. CT —	**2N6212** $V_{CER}(SUS)$ = −325 V h_{FE} = 30-175 @ −1A f_T = 20 MHz min. CT 507	**2N5955** $V_{CER}(SUS)$ = −65 V h_{FE} = 20-100 @−2.5 A f_T = 5 MHz min. CT 435	**2N6108** **2N6109** $V_{CER}(SUS)$ = −60 V h_{FE} = 30-150 @ −2.5 A f_T = 10 MHz min. CT 488	**TA8327** $V_{CER}(SUS)$ = −70 V h_{FE} = 30-150 @ −5 A f_T = 5 MHz typ. CT	**2N6247** $V_{CER}(SUS)$ = −85 V h_{FE} = 20-100 @ −6 A f_T = 10 MHz min. CT 533
2N4314 $V_{CER}(SUS)$ = −85 V h_{FE} = 50-250 @ −150 mA f_T = 60 MHz min. 216			**2N5781** $V_{CER}(SUS)$ = −80 V h_{FE} = 20-100 @ −1 A f_T = 8 MHz min. CT 413		**2N6213** $V_{CER}(SUS)$ = −375 V h_{FE} = 30-150 @ −1 A f_T = 20 MHz min. 507	**2N5954** $V_{CER}(SUS)$ = −80 V h_{FE} = 20-100 @ −2 A f_T = 5 MHz min. 435	**2N6106** **2N6107** $V_{CER}(SUS)$ = −80 V h_{FE} = 30-150 @ −2 A f_T = 10 MHz min. CT 488	**TA8326** $V_{CER}(SUS)$ = −90 V h_{FE} = 30-150 @ −4 A f_T = 5 MHz typ. CT	**2N6248** $V_{CER}(SUS)$ = −105 V h_{FE} = 20-100 @ −5 A f_T = 10 MHz min. CT 533
							TA8445 $V_{CER}(SUS)$ = −110 V h_{FE} = 40-200 @ −1 A f_T = 5 MHz typ.		

*Available with:
a. flange for easy heat sinking $R_{\theta JC}$ = 15° C/W
b. free-air radiator $R_{\theta JA}$ = 40-50° C/W

**Available with free-air radiator $R_{\theta JA}$ = 30° C/W

File No. (e.g. File No. 216), where shown, relates to the data bulletin.

CT—Complementary Type available, see matrix on Complementary-Pair Power Types, page 9 and chart Epitaxial-Base Complementary Pair, page 8.

P_T = 10 W max. I_c = 1 A max. (TO-5)*	P_T = 20 W max. I_c = 1 A max. (Plastic TO-5)	P_T = 35 W max. I_c = 5 A max. (TO-66)**	P_T = 45 W max. I_c = 10 A peak (TO-66)**	P_T = 100 W max. I_c = 10 A peak (TO-3) Switching	 Linear	P_T = 100 W max. I_c = 5 A max. (TO-3)	P_T = 110 W max. I_c = 15 A peak (TO-3)	P_T = 125 W max. I_c = 10 A peak (TO-3)	P_T = 175 W max. I_c = 30 A peak (TO-3) Switching
2N3440 $V_{CER}(sus)$ = 300 V h_{FE} = 40-160 @ 20 mA f_T 15 MHz min. CT File No. 64	**2N6175** **40885** ■ "Plastic 2N3440" $V_{CER}(sus)$ = 300 V h_{FE} = 30-190 @ 20 mA f_T = 20 MHz min. CT File No. 508	**2N3583** $V_{CER}(sus)$ = 250 V h_{FE} = 40 min. @ 100 mA h_{FE} 10 min. @ 1 A f_T = 15 MHz min. File No. 138	**2N6078** $V_{CER}(sus)$ = 275 V h_{FE} = 12-70 @ 1.2A t_r = 0.3 μs typ. t_f = 0.3 μs typ. File No. 492	**2N5838** $V_{CER}(sus)$ = 275 V h_{FE} = 20 min. @0.5 A h_{FE} = 8-40 @ 3 A t_r = 0.8 μs typ. t_f = 0.4 μs typ. File No. 410	**2N5239** $V_{CER}(sus)$ = 250 V h_{FE} = 20 min. @ 2 A h_{FE} = 20-80 @ 0.4 A f_T = 5 MHz min. File No. 321	**TA7759** $V_{CEX}(sus)$ = 1000 V h_{FE} = 5-100 @ 1.75 A t_r = 1 μs max. t_f = 1.5 μs max.	**2N5804** $V_{CER}(sus)$ = 300 V h_{FE} = 25-250 @ 0.5 A h_{FE} = 10-100 @ 5 A t_r = 0.4 μs typ. t_f = 1.2 μs typ. File No. 407	**410** $V_{CEO}(sus)$ = 200 V h_{FE} = 30-90 @ 1 A t_r = 0.35 μs typ. t_f = 0.15 μs typ. File No. 509	**2N6249** $V_{CER}(sus$ = 250 V h_{FE} = 12 min. @ 10 A h_{FE} = 40-150 @ 3.5 A t_r = 0.6 μs typ. t_f = 0.5 μs typ. File No. 523
2N3439 $V_{CER}(sus)$ = 400 V h_{FE} = 40-160 @ 20 mA f_T = 15 MHz min. CT 64	**2N6176** **40886** ■ $V_{CER}(sus)$ = 350 V h_{FE} = 30-150 @ 20 mA f_T = 20 MHz min. CT 508	**2N3584** $V_{CER}(sus)$ = 300 V h_{FE} = 40 min. @ 100 mA h_{FE} = 25-100 @ 1 A f_T = 15 MHz min. CT 138	**2N6077** $V_{CER}(sus)$ = 300 V h_{FE} = 12-70 @ 1.2 A t_r = 0.3 μs typ. t_f = 0.3 μs typ. 492	**2N5839** $V_{CER}(sus)$ = 300 V h_{FE} = 20 min. @ 0.5 A h_{FE} = 10-50 @ 2A t_r = 0.6 μs typ. t_f = 0.35 μs typ. 410	**2N5240** $V_{CER}(sus)$ = 350 V h_{FE} = 20 min. @ 2 A h_{FE} = 20-80 @ 0.4 A f_T = 5 MHz min. 321		**2N5805** $V_{CER}(sus)$ = 375 V h_{FE} = 25-250 @ 0.5 A h_{FE} = 10-100 @ 5 A t_r = 0.4 μs typ. t_f = 1.2 μs typ. 407	**411** $V_{CEO}(sus)$ = 300 V h_{FE} = 30-90 @ 1 A t_r = 0.35 μs typ. t_f = 0.15 μs typ. 510	**2N6250** $V_{CER}(sus)$ = 325 V h_{FE} = 12 min. @ 10 A h_{FE} 40-150 @ 3.5 A t_r = 0.8 μs typ. t_f = 0.5 μs typ. 523
	2N6177 **40887** ■ "Plastic 2N3439" $V_{CER}(sus)$ = 400 V h_{FE} = 30-150 @ 50 mA f_T = 20 MHz min. 508	**2N3585** $V_{CER}(sus)$ = 400 V h_{FE} = 40 min. @ 100 mA h_{FE} = 25-100 @ 1 A f_T = 15 MHz min. CT 138	**2N6079** $V_{CER}(sus)$ = 375 V h_{FE} = 12-70 @ 1-2 A t_r = 0.3 μs typ. t_f = 0.3 μs typ. 492	**2N5840** $V_{CER}(sus)$ = 375 V h_{FE} = 20 min. @ 0.5 A h_{FE} = 10-50 @ 2 A t_r = 0.6 μs typ. t_f = 0.35 μs typ. 410			**40853** $V_{CER}(sus)$ = 375 V h_{FE} = 10 min. @ 5 A t_r = 0.4 μs typ. t_f = 1.2 μs typ. 498	**413** $V_{CEO}(sus)$ = 325 V h_{FE} = 20-80 @ 0.5 A t_r = 0.35 μs typ. t_f = 0.15 μs typ. 511	**2N6251** $V_{CER}(sus)$ = 400 V h_{FE} = 8 min. @ 10 A h_{FE} = 20-100 @ 3.5 A t_r = 0.8 μs typ. t_f = 0.5 μs typ. 523
		2N4240 $V_{CER}(sus)$ = 400 V h_{FE} = 40 min. @ 100 mA h_{FE} = 30-150 @ 750 mA f_T = 15 MHz min. 138	**40851** $V_{CER}(sus)$ = 375 V h_{FE} = 12 min. @ 1.2 A t_r = 0.3 μs typ. t_f = 0.3 μs typ. 498	**40852** $V_{CER}(sus)$ = 375 V h_{FE} = 12 min. @ 1.2 A t_r = 0.5 μs typ. t_f = 0.35 μs typ. 498				**423** $V_{CEO}(sus)$ = 325 V h_{FE} = 30-90 @ 1 A t_r = 0.35 μs typ. t_f = 0.15 μs typ. 512	**40854** $V_{CER}(sus)$ = 325 V h_{FE} = 10 min. @ 10 A t_r = 0.8 μs typ. t_f = 0.5 μs typ. 498
		40850 $V_{CER}(sus)$ = 400 V h_{FE} = 25 min. @ 750 mA f_T = 15 MHz min. 498						**431** $V_{CEO}(sus)$ = 325 V h_{FE} = 15-35 @ 2.5 A t_r = 0.35 μs typ. t_f = 0.15 μs typ. 513	

*Available with:
a. flange for easy heat sinking $R_{\theta JC}$ = 15°C/W
b. free-air radiator $R_{\theta JA}$ = 45°C/W

**Available with free-air radiator $R_{\theta JA}$ = 30°C/W

■Type with a factory-attached heat clip

File No. (e.g. File No. 64), where shown, relates to the data bulletin.

CT—Complementary Type available, see matrix on Complementary-Pair Power Types, page 9.

I_C to 30 A . . . f_T to 20 MHz . . . P_T to 175 W
HIGH-VOLTAGE N-P-N POWER TYPES

HIGH-SPEED SWITCHING N-P-N POWER TYPES

f_T to 120 MHz . . . I_C to 60 A . . . P_T to 140 W

P_T = 5 W max. I_c = 1 A max. (TO-5)*	P_T = 5 W max. I_c = 2 A max. (Lo Profile TO-39)	P_T = 10 W max. I_c = 2 A max. (TO-5)*	P_T = 25 W max. I_c = 2 A max. (Plastic TO-5)	P_T = 35 W max. I_c = 7 A max. (TO-66)**	P_T = 85 W max. I_c = 15 A max. (Radial)	P_T = 125 W max. I_c = 25 A max. (TO-63)	P_T = 140 W max. I_c = 20 A max. (TO-3)	P_T = 140 W max. I_c = 30 A max. (TO-3)	P_T = 140 W max. I_c = 60 A max. (Modified TO-3)
2N3053 $V_{CER}(SUS)$ = 50 V h_{FE} = 50-250 @ 150 mA f_T = 100 MHz min. CT File No. 432	**2N5189** $V_{CEO}(SUS)$ = 35 V h_{FE} = 15 max. @ 1 A f_T = 250 MHz min t_{on} = 40 ns max. t_{off} = 70 ns max. File No. 296	**2N5321** $V_{CER}(SUS)$ = 65 V h_{FE} = 40-250 @ 500 mA f_T = 50 MHz min. t_{on} = 80 ns max. t_{off} = 800 ns max. CT File No. 325	**2N6179** "Plastic 2N5321" $V_{CER}(SUS)$ = 65 V h_{FE} = 40-250 @ 500 mA f_T = 50 MHz min. t_{on} = 80 ns max. t_{off} = 800 ns max. CT —	**2N3878**‡ $V_{CER}(SUS)$ = 60 V h_{FE} = 20 min. @ 4 A h_{FE} = 50-200 @ 0.5 A f_T = 60 MHz min. t_r = 400 μs max. t_f = 400 μs max. File No. 299	**TA8007** (Isolated Collector) $V_{CER}(SUS)$ = 80 V h_{FE} = 20 min. @ 7 A f_T = 100 MHz typ. Radiation Hard	**2N3266** **2N3264**■ $V_{CER}(SUS)$ = 80 V h_{FE} = 20-80 @ 15 A f_T 20 MHz min. t_{on} = 0.5 μs max. t_{off} = 2 μs max. File No. 54	**2N5039** $V_{CER}(SUS)$ = 95 V h_{FE} = 20 min. @ 10 A h_{FE} = 30-150 @ 2 A f_T 60 MHz min. t_{on} = 0.5 μs max. t_{off} = 2 μs max. File No. 367	**2N5671** $V_{CER}(SUS)$ = 110 V h_{FE} = 20 min. @ 20 A h_{FE} = 20-100 @ 15 A f_T 50 MHz min. t_{on} = 0.5 μs max. t_{off} = 2 μs max. File No. 383	**2N6032** $V_{CER}(SUS)$ = 110 V h_{FE} = 10-50 @ 50 A f_T = 50 MHz min. t_r = 1 μs max. t_f = 0.5 μs max. File No. 462
2N2102 $V_{CER}(SUS)$ = 80 V h_{FE} = 40-120 @ 150 mA f_T = 120 MHz min. CT 106	**2N5262** $V_{CEO}(SUS)$ = 50 V h_{FE} = 25 min. @ 1 A f_T = 250 MHz min. t_{on} = 30 ns max. t_{off} = 60 ns max. 313	**2N5320** $V_{CER}(SUS)$ = 90 V h_{FE} = 30-130 @ 500 mA f_T = 50 MHz min. t_{on} = 80 ns max. t_{off} = 800 ns max. CT 325	**2N6178** "Plastic 2N5320" $V_{CER}(SUS)$ = 90 V h_{FE} = 30-130 @ 500 mA f_T = 50 MHz min. t_{on} = 80 ns max. t_{off} = 800 ns max. CT —	**2N3879** $V_{CER}(SUS)$ = 90 V h_{FE} = 40 min. @ 0.4 A h_{FE} = 20-80 @ 4 A f_T = 60 MHz min. t_r = 400 μs max. t_f = 400 μs max. 299	**TA8100** $V_{CER}(SUS)$ = 80 V h_{FE} = 20 min. @ 7A f_T = 100 MHz typ. Radiation Hard	**2N3265** **2N3263**■ $V_{CER}(SUS)$ = 110 V h_{FE} = 25-75 @ 15 A f_T = 20 MHz min. t_{on} = 0.5 μs max. t_{off} = 2 μs max. 54	**2N5038** $V_{CER}(SUS)$ = 110 V h_{FE} = 20 min. @ 12 A h_{FE} = 50-200 @ 2 A f_T = 60 MHz min. t_{on} = 0.5 μs max. t_{off} = 2 μs max. 367	**2N5672** $V_{CER}(SUS)$ = 140 V h_{FE} = 20 min. @ 20 A h_{FE} = 20-100 @ 15 A f_T = 50 MHz min. t_{on} = 0.5 μs max. t_{off} = 2 μs max. 383	**2N6033** $V_{CER}(SUS)$ = 140 V h_{FE} = 10-50 @ 40 A f_T = 50 MHz min. t_r = 1 μs max. t_f = 0.5 μs max. 462
				2N5202 $V_{CER}(SUS)$ = 75 V h_{FE} = 10-100 @ 4 A f_T = 60 MHz min. t_r = 400 μs max. t_f = 400 μs max. 299			**TA7534** $V_{CER}(SUS)$ = 120 V h_{FE} = 20 min. @ 5 A f_T = 90 MHz typ. t_s = 0.9 μs max. t_f = 0.3 μs max.		

*Available with:
a. flange for easy heat sinking $R_{\theta JC}$ = 15° C/W
b. free-air radiator $R_{\theta JA}$ = 50° C/W

**Available with free-air radiator $R_{\theta JA}$ = 30° C/W

‡Also available with heat radiator (40375)

■Flat radial lead version

File No. (e.g. File No. 432), where shown, relates to the data bulletin.

CT—Complementary Type available, see matrix on Complementary-Pair Power Types, page 9.

NPN				PNP			
P_T = 40 W max. I_c = 7 A max. VERSAWATT (TO-220)	P_T = 40 W max. I_c = 7 A max. (TO-66)	P_T = 75 W max. I_c = 15 A max. VERSAWATT (TO-220)	P_T = 125 W max. I_c = 15 A max. (TO-3)	P_T = 40 W max. I_c = −7 A max. VERSAWATT (TO-220)	P_T = 40 W max. I_c = −6 A max. (TO-66)	P_T = 75 W max. I_c = −15 A max. VERSAWATT (TO-220)	P_T = 125 W max. I_c = −15 A max. (TO-3)
TA7784 TA8233 $V_{CER}(SUS)$ = 40 V h_{FE} = 30 min. @ 3 A f_T = 5 MHz typ.	**TA8354** $V_{CER}(SUS)$ = 45 V h_{FE} = 20-100 @ 3 A f_T = 5 MHz typ.	**TA8325** $V_{CER}(SUS)$ = 50 V h_{FE} = 30-150 @ 6 A f_T = 5 MHz typ.	**TA8443** $V_{CER}(SUS)$ = 65 V h_{FE} = 20-100 @ 7 A f_T = 5 MHz typ.	**2N6110 2N6111** $V_{CER}(SUS)$ = −40 V h_{FE} = 30-150 @ −3 A f_T = 10 MHz min. File No. 488	**2N5956** $V_{CER}(SUS)$ = −45 V h_{FE} = 20-100 @ −3 A f_T = 5 MHz min. File No. 435	**TA8328** $V_{CER}(SUS)$ = −50 V h_{FE} = 30-150 @ −6 A f_T = 5 MHz typ.	**2N6246** $V_{CER}(SUS)$ = −65 V h_{FE} = 20-100 @ −7 A f_T = 10 MHz min. File No. 533
TA7783 TA8232 $V_{CER}(SUS)$ = 60 V h_{FE} = 30 min. @ 2.5 A f_T = 5 MHz typ.	**TA8353** $V_{CER}(SUS)$ = 65 V h_{FE} = 20-100 @ 2.5 A f_T = 5 MHz typ.	**TA8324** $V_{CER}(SUS)$ = 70 V h_{FE} = 30-150 @ 5 A f_T = 5 MHz typ.	**TA8442** $V_{CER}(SUS)$ = 85 V h_{FE} = 20-100 @ 6 A f_T = 5 MHz typ.	**2N6108 2N6109** $V_{CER}(SUS)$ = −60 V h_{FE} = 30-150 @ −2.5 A f_T = 10 MHz min. 488	**2N5955** $V_{CER}(SUS)$ = −65 V h_{FE} = 20-100 @ −2.5 A f_T = 5 MHz min. 435	**TA8327** $V_{CER}(SUS)$ = −70 V h_{FE} = 30-150 @ −5 A f_T = 5 MHz typ.	**2N6247** $V_{CER}(SUS)$ = −85 V h_{FE} = 20-100 @ −6 A f_T = 10 MHz min. 533
TA7782■ TA8231 $V_{CER}(SUS)$ = 80 V h_{FE} = 30 min. @ 2 A f_T = 5 MHz typ.	**TA8352** $V_{CER}(SUS)$ = 80 V h_{FE} = 20-100 @ 2 A f_T = 5 MHz typ.	**TA8323** $V_{CER}(SUS)$ = 90 V h_{FE} = 30-150 @ 4 A f_T = 5 MHz typ.	**TA8441** $V_{CER}(SUS)$ = 105 V h_{FE} = 20-100 @ 5 A f_T = 5 MHz typ.	**2N6106■ 2N6107** $V_{CER}(SUS)$ = −80 V h_{FE} = 30-150 @ −2 A f_T = 10 MHz min. 488	**2N5954** $V_{CER}(SUS)$ = −80 V h_{FE} = 20-100 @ −2 A f_T = 5 MHz min. 435	**TA8326** $V_{CER}(SUS)$ = −90 V h_{FE} = 30-150 @ −4 A f_T = 5 MHz typ.	**2N6248** $V_{CER}(SUS)$ = −105 V h_{FE} = 20-100 @ −5 A f_T = 10 MHz min. 533
TA8444 $V_{CER}(SUS)$ = 120 V h_{FE} = 40-200 @ 1 A f_T = 5 MHz typ.				**TA8445** $V_{CER}(SUS)$ = −120 V h_{FE} = 40-200 @ −1 A f_T = 5 MHz typ.			

■Reverse lead versions selected from this family are also available,
see chart on page 8.

I_C to 15 A . . . P_T to 125 W . . . V_{CE} to 120 V

EPITAXIAL-BASE N-P-N & P-N-P POWER TYPES

EPITAXIAL-BASE COMPLEMENTARY PAIRS — BY FAMILY

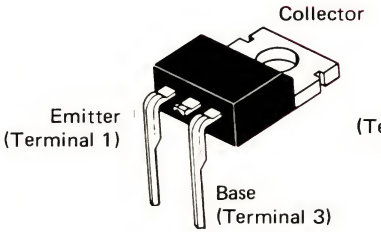
TO-66 & TO-3				VERSAWATT (TO-220)			
I_C 2 to 3 A		I_C 5 to 7 A		I_C 2 to 3 A		I_C 4 to 6 A	
NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP
TA8352 $V_{CER}(sus)$ = 45 to 80 V	**2N5954** $V_{CER}(sus)$ = -45 to -80 V	**TA8441** $V_{CER}(sus)$ = 65 V to 105 V	**2N6248** $V_{CER}(sus)$ = -65 to -105 V	**TA7782■** $V_{CER}(sus)$ = 40 to 80 V	**2N6106■** $V_{CER}(sus)$ = -40 to -80 V	**TA8323** $V_{CER}(sus)$ = 50 to 90 V	**TA8326** $V_{CER}(sus)$ = -50 to -90 V

h_{FE} measured within ranges of I_C values shown.

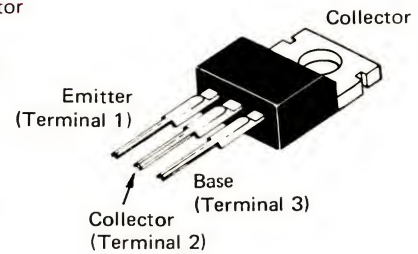
■Reverse lead versions selected from this family are also available, see chart below.

REVERSE-LEAD, EPITAXIAL-BASE COMPLEMENTARY-PAIRS

TA7782 FAMILY NPN VERSAWATT (TO-220)	2N6106 FAMILY PNP VERSAWATT (TO-220)
I_C 2 to 3 A	I_C -2 to -3 A
TA8446 **TA8447**	**TA8448** **TA8449**



TO-220 AA



TO-220 AB

MONOLITHIC DARLINGTON TYPES

NPN				PNP			
P_T = 40 W max. I_C = 15 A max. VERSAWATT (TO-220)	**P_T = 40 W max. I_C = 15 A max. VERSAWATT (TO-220)**	**P_T = 100 W max. I_C = 20 A max. (TO-3)**	**P_T = 100 W max. I_C = 20 A max. (TO-3)**	**P_T = 40 W max. I_C = -15 A max. VERSAWATT (TO-220)**	**P_T = 40 W max. I_C = -15 A max. VERSAWATT (TO-220)**	**P_T = 100 W max. I_C = -20 A max. (TO-3)**	**P_T = 100 W max. I_C = -20 A max. (TO-3)**
TA8202 $V_{CEO}(sus)$ = 40 V h_{FE} = 1000 min. @ 5 A	**TA8201** $V_{CEO}(sus)$ = 80 V h_{FE} = 1000 min. @ 5 A	**TA8349** $V_{CEO}(sus)$ = 40 V h_{FE} = 1000 min. @ 5 A	**TA8348** $V_{CEO}(sus)$ = 80 V h_{FE} = 1000 min. @ 5 A	**TA8204** $V_{CEO}(sus)$ = -40 V h_{FE} = 1000 min. @ -5 A	**TA8203** $V_{CEO}(sus)$ = -80 V h_{FE} = 1000 min. @ -5 A	**TA8351** $V_{CEO}(sus)$ = -40 V h_{FE} = 1000 min. @ -5 A	**TA8350** $V_{CEO}(sus)$ = -80 V h_{FE} = 1000 min. @ -5 A
t_{on} = 2 μs t_f = 4 μs t_s = 2 μs				t_{on} = 2 μs t_f = 4 μs t_s = 2μs			

Hometaxial-Base/Epitaxial-Base

I_C 1.5 to 2 A		I_C = 2.5 A		I_C 3 to 3.5 A		I_C 4 to 6 A		I_C 12 to 17 A	
N-P-N	P-N-P	N-P-N	P-N-P	N-P-N	P-N-P	N-P-N	P-N-P	N-P-N	P-N-P
2N5293 2N5294 V_{CER}(SUS) = 75 V I_C = 1.5 A VERSAWATT (TO-220) File No. 322	**2N6106 2N6107** V_{CER}(SUS) = −80 V I_C = −1.5 A VERSAWATT (TO-220) 488	**2N5786** V_{CER}(SUS) = 45 V I_C = 2.5 A (TO-5) File No. 413	**2N5783** V_{CER}(SUS) = −45 V I_C = −2.5 A (TO-5) 413	**2N3054** V_{CER}(SUS) = 60 V I_C = 3 A (TO-66) File No. 527	**2N5955** V_{CER}(SUS) = −65 V I_C = −3 A (TO-66) 435	**2N5495 2N5494** V_{CER}(SUS) = 50 V I_C = 4 A VERSAWATT (TO-220) File No. 353	**2N6110 2N6111** V_{CER}(SUS) = −40 V I_C = −4 A VERSAWATT TO-220) 488	**2N3055** V_{CER}(SUS) = 70 V I_C = 12 A (TO-3) File No. 524	**2N6247** V_{CER}(SUS) = −90V I_C = −12 A (TO-3) 533
2N5295 2N5296 V_{CER}(SUS) = 50 V I_C = 2 A VERSAWATT (TO-220) 322	**2N6106 2N6107** V_{CER}(SUS) = −80 V I_C = −2 A VERSAWATT (TO-220) 488	**2N5297 2N5298** V_{CER}(SUS) = 70 V I_C = 2.5 A VERSAWATT (TO-220) 322	**2N6106 2N6107** V_{CER}(SUS) = −80 V I_C = −2.5 A VERSAWATT (TO-220) 488	**2N5491 2N5490** V_{CER}(SUS) = 50 V I_C = 3 A VERSAWATT (TO-220) 353	**2N6106 2N6107** V_{CER}(SUS) = −80 V I_C = −3 A VERSAWATT (TO-220) 488	**2N4347** V_{CEV}(SUS) = 140 V I_C = 4 A (TO-3) 528	**2N5954**■ V_{CER}(SUS) = −80 V I_C = −4 A (TO-66) 435	**2N4348** V_{CEV}(SUS) = 140 V I_C = 14 A (TO-3) 526	**2N6248** V_{CER}(SUS) = −110 V I_C = −14 A (TO-3) 533
2N3441 V_{CER}(SUS) = 150 V I_C = 2 A (TO-66) 529	**2N5954** V_{CER}(SUS) = −80 V I_C = −2 A (TO-66) 435	**2N5785** V_{CER}(SUS) = 65 V I_C = 2.5 A (TO-5) 413	**2N5782** V_{CER}(SUS) = −65 V I_C = −2.5 A (TO-5) 413	**40250** V_{CER}(SUS) = 50 V I_C = 3.5 A (TO-66) 112	**2N5956** V_{CER}(SUS) = −45 V I_C = −3.5 A (TO-66) 435	**40251** V_{CEV}(SUS) = 50 V I_C = 6 A (TO-3) 112	**2N5956** V_{CER}(SUS) = −45 V I_C = −6 A (TO-66) 435	**2N3772** V_{CER}(SUS) = 70 V I_C = 17 A (TO-3) 525	**2N6247** V_{CER}(SUS) = −90 V I_C = −17 A (TO-3) 533
		2N5784 V_{CER}(SUS) = 80 V I_C = 2.5 A (TO-5) 413	**2N5781** V_{CER}(SUS) = −80 V I_C = −2.5 A (TO-5) 413	**2N5493 2N5492** V_{CER}(SUS) = 65 V I_C = 3.5 A VERSAWATT (TO-220) 353	**2N6108 2N6109** V_{CER}(SUS) = −60 V I_C = −3.5 A VERSAWATT (TO-220) 488	**2N3055** V_{CER}(SUS) = 70 V I_C = 6 A (TO-3) 524	**2N5955** V_{CER}(SUS) = −65 V I_C = −6 A (TO-66) 435		

■ Or higher voltage type 2N6248.

High-Voltage

I_C = 0.2 A		I_C = 2 A	
N-P-N	P-N-P	N-P-N	P-N-P
2N3440 V_{CEO}(SUS) = 250 V I_C = 0.2 A (TO-5) File No. 64	**2N5415** V_{CEO}(SUS) = −200 V I_C = −0.2 A (TO-5) 336	**2N3584** V_{CER}(SUS) = 350 V I_C = 2 A (TO-66) File No. 138	**2N6211** V_{CER}(SUS) = −275 V I_C = −2 A (TO-66) File No. 507
2N6175 V_{CER}(SUS) = 300 V I_C = 0.2 A (Plastic TO-5) 508	**2N5415** V_{CEO}(SUS) = −200 V I_C = −0.2 A (TO-5) 336	**2N3585** V_{CER}(SUS) = 400 V I_C = 2 A (TO-66) 138	**2N6212** V_{CER}(SUS) = −325 V I_C = −2 A (TO-66) 507
2N3439 V_{CEO}(SUS) = 350 V I_C = 0.2 A (TO-5) 64	**2N5416** V_{CER}(SUS) = −350 V I_C = −0.2 A (TO-5) 336		
2N6176 V_{CER}(SUS) = 350 V I_C = 0.2 A (Plastic TO-5) 508	**2N5416** V_{CER}(SUS) = −350 V I_C = −0.2 A (TO-5) 336		

Note: The collector current (I_C) value shown is for h_{FE} of 10 min.

File No. (e.g. File No. 322), where shown, relates to data bulletin.

High-Speed

I_C = 1 A			
N-P-N	P-N-P	N-P-N	P-N-P
2N3053 V_{CER}(SUS) = 50 V I_C = 1 A (TO-5) File No. 432	**2N4037** V_{CER}(SUS) = −60 V I_C = −1 A (TO-5) 216	**2N6179** V_{CER}(SUS) = 65 V I_C = 1 A (Plastic TO-5) —	**2N6181** V_{CER}(SUS) = −65 V I_C = −1 A (Plastic TO-5) —
2N2102 V_{CER}(SUS) = 80 V I_C = 1 A (TO-5) 106	**2N4036** V_{CER}(SUS) = −85 V I_C = −1 A (TO-5) 216	**2N6178** V_{CER}(SUS) = 90 V I_C = 1 A (Plastic TO-5) —	**2N6180** V_{CER}(SUS) = −90 V I_C = −1 A (Plastic TO-5) —
2N5321 V_{CER}(SUS) = 65 V I_C = 1 A (TO-5) 325	**2N5323** V_{CER}(SUS) = −65 V I_C = −1 A (TO-5) 325		
2N5320 V_{CER}(SUS) = 90 V I_C = 1 A (TO-5) 325	**2N5322** V_{CER}(SUS) = −90 V I_C = −1A (TO-5) 325		

COMPLEMENTARY-PAIR POWER TYPES

PLASTIC-PACKAGED POWER TYPES

HOMETAXIAL BASE			P-N-P	HIGH-VOLTAGE	HIGH-SPEED	EPITAXIAL BASE			
						NPN		PNP	
P_T = 36 W max. I_c = 4 A max. VERSAWATT (TO-220)	P_T = 50 W max. I_c = 7 A max. VERSAWATT (TO-220)	P_T = 75 W max. I_c = 10 A max. VERSAWATT (TO-220)	P_T = 25 W max. I_c=-2 A max. (Plastic TO-5)	P_T = 20 W max. I_c = 1 A max. (Plastic TO-5)	P_T = 25 W max. I_c = 2 A max. (Plastic TO-5)	P_T = 40 W max. I_c = 7 A max. VERSAWATT (TO-220)	P_T = 75 W max. I_c = 15 A max. VERSAWATT (TO-220)	P_T = 40 W max. I_c = −7 A max. VERSAWATT (TO-220)	P_T = 75 W max. I_c = −15 A max. VERSAWATT (TO-220)
2N5295 **2N5296** $V_{CER}(SUS)$ = 50 V h_{FE} = 30-120 @ 1 A f_T = 0.8 MHz min. CT File No. 322	**2N5491** **2N5490** $V_{CER}(SUS)$ = 50 V h_{FE} = 20-100 @ 2 A f_T = 0.8 MHz min. CT File No. 353	**2N6102** **2N6103** $V_{CER}(SUS)$ = 45 V h_{FE} = 15-60 @ 8 A f_T = 0.9 MHz min. I_c = 16 A max. File No. 485	**2N6181** "Plastic 2N5323" $V_{CER}(SUS)$ = −65 V h_{FE} = 40-250 @ −500 mA f_T = 50 MHz min. CT —	**2N6175** **40885■** "Plastic 2N3440" $V_{CER}(SUS)$ = 300 V h_{FE} = 30-190 @ 20 mA f_T = 20 MHz min. CT File No. 508	**2N6179** "Plastic 2N5321" $V_{CER}(SUS)$ = 65 V h_{FE} = 40-250 @ 500 mA f_T = 50 MHz min. CT —	**TA7784** **TA8233** $V_{CER}(SUS)$ = 40 V h_{FE} = 30 min. @ 3 A f_T = 5 MHz typ.	**TA8325** $V_{CER}(SUS)$ = 50 V h_{FE} = 30-150 @ 6 A f_T = 5 MHz typ.	**2N6110** **2N6111** $V_{CER}(SUS)$ = −40 V h_{FE} = 30-150 @ −3 A f_T = 10 MHz min. CT File No. 488	**TA8328** $V_{CER}(SUS)$ = −50 V h_{FE} = 30-150 @ −6 A f_T = 5 MHz typ.
2N5297 **2N5298** $V_{CER}(SUS)$ = 70 V h_{FE} = 20-80 @ 1.5 A f_T = 0.8 MHz min. CT 322	**2N5495** **2N5494** $V_{CER}(SUS)$ = 50 V h_{FE} = 20-100 @ 3 A f_T = 0.8 MHz min. CT 353	**2N6098** **2N6099** $V_{CER}(SUS)$ = 65 V h_{FE} = 20-80 @ 4 A f_T = 0.8 MHz min. I_c = 10 A max. 485	**2N6180** "Plastic 2N5322" $V_{CER}(SUS)$ = −90 V h_{FE} = 30-130 @ −500 mA h_{FE} = 10 min. @ −1 A f_T = 50 MHz min. CT —	**2N6176** **40886■** $V_{CER}(SUS)$ = 350 V h_{FE} = 30-150 @ 20 mA f_T = 20 MHz min. CT 508	**2N6178** "Plastic 2N5320" $V_{CER}(SUS)$ = 90 V h_{FE} = 30-130 @ 500 mA f_T = 50 MHz min. CT —	**TA7783** **TA8232** $V_{CER}(SUS)$ = 60 V h_{FE} = 30 min. @ 2.5 A f_T = 5 MHz typ.	**TA8324** $V_{CER}(SUS)$ = 70 V h_{FE} = 30-150 @ 5 A f_T = 5 MHz typ.	**2N6108** **2N6109** $V_{CER}(SUS)$ = −60 V h_{FE} = 30-150 @ −2.5 A f_T = 10 MHz min. CT 488	**TA8327** $V_{CER}(SUS)$ = −70 V h_{FE} = 30-150 @ −5 A f_T = 5 MHz typ.
2N5293 **2N5294** $V_{CER}(SUS)$ = 75 V h_{FE} = 30-120 @ 0.5 A f_T = 0.8 MHz min. CT 322	**2N5493** **2N5492** $V_{CER}(SUS)$ = 65 V h_{FE} = 20-100 @ 2.5 A f_T = 0.8 MHz min. CT 353	**2N6100** **2N6101** $V_{CER}(SUS)$ = 75 V h_{FE} = 20-80 @ 5 A f_T = 0.8 MHz min. I_c = 10 A max. 485		**2N6177** **40887■** "Plastic 2N3439" $V_{CER}(SUS)$ = 400 V h_{FE} = 40-160 @ 20 mA f_T = 15 MHz min. 508		**TA7782■** **TA8231** $V_{CER}(SUS)$ = 80 V h_{FE} = 30 min. @ 2 A f_T = 5 MHz typ.	**TA8323** $V_{CER}(SUS)$ = 90 V h_{FE} = 30-150 @ 4 A f_T = 5 MHz typ.	**2N6106** **2N6107** $V_{CER}(SUS)$ = −80 V h_{FE} = 30-150 @ −2 A f_T = 10 MHz min. CT 488	**TA8326** $V_{CER}(SUS)$ = −90 V h_{FE} = 30-150 @ −4 A f_T = 5 MHz typ.
	2N5497 **2N5496** $V_{CER}(SUS)$ = 80 V h_{FE} = 20-100 @ 3.5 A f_T = 0.8 MHz min. CT 353					**TA8444** $V_{CER}(SUS)$ = 120 V h_{FE} = 40-200 @ 1 A f_T = 5 MHz typ.		**TA8445** $V_{CER}(SUS)$ = −120 V h_{FE} = 40-200 @ −1 A f_T = 5 MHz typ.	

File No. (e.g. File No. 322), where shown, relates to data bulletin.

■Type with a factory-attached heat clip.

CT—Complementary Type available, see matrix on Complementary-Pair Power Types, page 9.

See also matrix on "Monolithic Darlington Types", page 8.

Power Transistors — Military Specification Types

RCA (JAN) Type No.	MIL-Spec 19500/	RCA (JAN) Type No.	MIL-Spec 19500/	RCA (JAN) Type No.	MIL-Spec 19500/	RCA (JAN) Type No.	MIL-Spec 19500/	RCA (JAN) Type No.	MIL-Spec 19500/
2N1183	143	2N1480	207	2N1486	180	TX2N3055	407	2N3771	413
2N1183A	143	2N1481	207	TX2N1486	180	2N3439	368	TX2N3771	413
2N1183B	143	2N1482	207	2N1487	208	TX2N3439	368	2N3772	413
2N1184	143	2N1483	180	2N1488	208	2N3440	368	TX2N3772	413
2N1184A	143	TX2N1483	180	2N1489	208	TX2N3440	368	2N5038	439
2N1184B	143	2N1484	180	2N1490	208	2N3441	369	TX2N5038	439
2N1224	189	TX2N1484	180	2N2015	248	2N3442	307	2N5039	439
2N1225	189	2N1485	180	2N2016	248	2N3584	384	TX2N5039	439
2N1479	207	TX2N1485	180	2N3055	407	2N3585	384		

APPLICATION INFORMATION. . .

Power Types [N-P-N & P-N-P] for Inverter/Switching Regulator Service

Frequency Range	Peak Voltage Required	Peak Primary Current Requirement				
		Up to 0.2 A	0.2 to 1 A	1 to 4 A	4 to 20 A	> 20 A
60 Hz to 50 kHz	10 to 60 V	2N3053 2N4037●	2N5321● 2N5323 2N6179 2N6181●	2N3054 2N5497▲	2N3055 2N3772	—
	60 to 150 V	2N1486 2N2102 2N4036●	2N1486 2N3441 2N5298 2N5781● 2N5784	2N3442 2N3879 2N5293▲ 2N5954●	2N3265 2N3773 2N5039 2N5672 2N6248●	2N5580 2N5671 2N6032
	150 to 450 V	2N3440 2N5416● 2N6177▲	—	2N3585 2N6212● 40850 40851	2N5805 2N5840 410 411 413 423 40852 431 40853	2N6251 40854

●P-N-P types
▲Plastic-packaged types

$V_{PEAK} = V_{CEX}$ value

V_{PEAK} = 2.2 V (V_{CC}) for push-pull inverters
= 1.1 V (V_{CC}) for bridge inverters
= 1.1 V (Source) for switching regulators

Power Types [N-P-N & P-N-P] as Pass Transistors for Series Regulator Service

Pass Transistor Conditions	Peak Output Voltage (V)	Regulator Output Current (I_o)—A				
		Up to 0.2	0.2 to 1	1 to 4	4 to 20	> 20
With preregulator $I_c = I_o$ V_{CE} = constant or $\approx 4[V_{CE}(sat)]$ $P_{MAX} \approx 4(I_o)[V_{CE}(sat)]$	10 to 60	[2N2102 2N4036] 2N1482	[2N5321 2N5323] [2N6179 2N6181]	[2N3054 2N5955] [2N5497 2N6106]	[2N3055 2N6247] 2N3771	2N3772 2N5575
	60 to 150	40349	2N3441	2N3442 2N4347 2N5293	2N3772 2N4348	2N5578
	150 to 400	[2N3440 2N5415]	[2N3585 2N6212]	2N5240	2N5805 2N6251	—

Brackets signifies a complementary pair (n-p-n, 2N2102; p-n-p, 2N4036) suitable for symmetrical power-supply circuits.

APPLICATION INFORMATION. . .

Power Types for Audio-Frequency Linear Amplifiers

Power Output (8 Ω Imped.)	Circuit	Output Transistors N-P-N	Output Transistors P-N-P	Driver Transistors N-P-N	Driver Transistors P-N-P	Pre-Driver Transistors N-P-N
120 W	Quasi-Comp.	40883 (TA8243)	—	40871 (TA7782)	40872 (2N6111)	40327 (2N3439)
70 W	Quasi-Comp.	40636 (2N3055)	—	40594 (2N5320)	40595 (2N5322)	40408 (2N2102
40 W	Full-Comp.	40884 (2N6103) or 40877 (TA8323)	40878 (TA8326)	40635 (2N2102)	40634 (2N4036)	40360 (2N2102)
	Quasi-Comp.		—			—
25 W	Full-Comp.	40632 (2N5492) or 40875 (TA7782)	40876 (2N6111)	40635 (2N2102)	40634 (2N4036)	40360 (2N2102)
	Quasi-Comp.		—			—
12 W	Full-Comp.	40816 (2N5495)	40817 (2N6111)	—	40815 (2N4036)	40814 (2N2102)
	Quasi-Comp.	40631 (2N5295)	—	—	—	—

Type number in parenthesis indicates the transistor family

Other applications for the types above. . .

Audio Power Amplifiers — Linear Modulators — Servo Amplifiers — Operational Amplifiers

Power Types for Electrostatic Deflection and Video Output

Bandwidth > 1 MHz	
Output Voltage < 60 V (Peak-to-Peak)	Output Voltage 60 to 400V (Peak-to-Peak)
2N2102	2N3439
2N3878	2N3585
2N4036*	2N5416*
2N5320	2N6177▲
2N5322*	2N6213*

*P-N-P type

▲Plastic TO-5 package type

APPLICATION INFORMATION. . .

Power Types for Magnetic Deflection and Automotive Ignition

Supply Voltage (V)	Volt-Ampere Product — VA			
	1000	2000	4000	10K
12 (Automotive)	2N3055 2N3442	2N3773 2N5840	2N5805 TA7759	2N6251
24 to 60 (TV & Display Systems)	2N3055 2N3772 2N5038	2N5840	2N5805 TA7759	2N6251
100 Regulated Line Voltage (TV)	2N3585	2N5240	—	—

Power Types for Ultrasonic Amplifier and LF/MF Power Sources

Output Frequency	Supply Voltage (V)	Power Output — W		
		25	100	250
50 kHz	24 to 60	2N3878 2N5320	2N5038	2N5038 2N6032
	120	2N3585	2N5805 2N5840	—
250 kHz	24 to 60	2N3878 2N5320	2N5038	2N5672 2N6032
	120	2N3585	2N5805 2N5840	2N5805
3 MHz	24 to 60	2N3878	2N5038	—

2N1482 FAMILY (silicon)

f_T = 1.4 MHz typ; P_T = 8.75 W max

DESCRIPTION

2N TYPES

2N1479● Medium Power DC-to-DC Converter, Inverter
2N1480● Medium Power Chopper, DC and Servo
2N1481● Medium Power Amplifier, Relay and Solenoid
2N1482● Medium Power Actuating Circuits

OTHER TYPES

40347 Low Power Audio Driver
40348 Relay and Solenoid Driver

HIGH-RELIABILITY TYPES

40367 Hi-Rel Version of 2N1482

V_{CEO}(sus) V	V_{CER}(sus) V	V_{CEV}(sus) V	h_{FE}	I_C mA	V_{CE} V	I_{CBO}–μA Temp.–°C 25	150	V_{CB} V	V_{CE}(sat)–V I_C mA	I_B mA	V_{BE}–V I_C mA
40	–	60	20-60	200	4	10	500	30	1.4	200	20	3	200
55	–	100	20-60	200	4	10	500	30	1.4	200	20	3	200
40	–	60	35-100	200	4	10	500	30	1.4	200	20	3	200
55	–	100	35-100	200	4	10	500	30	1.4	200	20	3	200
40	–	60	25-100	450	4	1	–	30	1	450	45	1.5	450
65	–	90	30-125	300	4	1	–	60	0.75	300	30	1.3	300
55	–	100	35-100	200	4	4	–	30	1.4	200	10	3	200

●JAN types available

TO-5

2N1486 FAMILY (silicon)

f_T = 1.2 MHz typ; P_T = 25 W max

2N TYPES

2N1483■ 2N1484■ 2N1485■ 2N1486■ Intermediate Power DC-to-DC Converter, Inverter Chopper, Regulators, DC and Servo Amplifiers Relay and Solenoid–Actuating Circuits

HIGH-RELIABILITY TYPES

40368 Hi-Rel Version of 2N1486

40	–	60	20-60	750	4	15	750	30	2	750	75	3.5	750
55	–	100	20-60	750	4	15	750	30	2	750	75	3.5	750
40	–	60	35-100	750	4	15	750	30	0.75	750	40	3.5	750
55	–	100	35-100	750	4	15	750	30	0.75	750	40	3.5	750
55	–	100	35-100	750	4	9	–	30	0.75	750	40	2.5	750

■JAN & JAN TX types available

TO-8

2N1490 FAMILY (silicon)

f_T = 0.8 MHz typ; P_T = 75 W max

2N TYPES

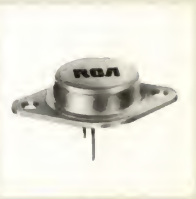
2N1487● High Power DC-to-DC Converter, Inverter, Chopper
2N1488● Voltage and Current Regulator, DC and Servo
2N1489● Amplifier, Relay, and Solenoid
2N1490● Actuating Circuits

HIGH-RELIABILITY TYPES

40369 Hi-Rel Version of 2N1490

40	–	60	15-45	1.5	4	25	1000	30	3	1.5	0.3	3.5	1.5
55	–	100	15-45	1.5	4	25	1000	30	3	1.5	0.3	3.5	1.5
40	–	60	25-75	1.5	4	25	1000	30	1	1.5	0.1	2.5	1.5
55	–	100	25-75	1.5	4	25	1000	30	1	1.5	0.1	2.5	1.5
55	–	100	25-75	1.5	4	30	–	30	1	1.5	0.1	2.5	1.5

●JAN types available



TO-3

2N2102 FAMILY (silicon)

f_T = 120 MHz min; P_T = 5 W max

TO-5

DESCRIPTION	V_{CEO}(sus) V	V_{CER}(sus) V	V_{CEV}(sus) V	h_{FE}* Current—mA 0.01	0.1	10	50	150	500	1000	I_{CBO}—μA Temp.—°C 25	150	V_{CB} V	V_{CE}(sat)—V I_C mA	I_B mA	V_{BE}(sat)—V I_C mA
2N TYPES																
2N697 40 V—General Purpose	–	40	–	–	–	–	–	40-120	–	–	1	–	30	1.5	150	15	1.3	150
2N699 80 V—General Purpose	–	80	–	–	–	–	–	40-120	–	–	2	–	60	5	150	15	1.3	150
2N1613 50 V—Linear Beta	–	50	–	–	20 min.	35 min.	–	40-120	20 min.	–	0.01	10	60	1.5	150	15	1.3	150
2N1711 50 V—High Linear Beta	–	50	–	20 min.	35 min.	75 min.	–	100-300	40 min.	–	0.01	10	60	1.5	150	15	1.3	150
2N1893 80 V—Low Leakage	80	100	–	–	20 min.	35 min.	–	40-120	–	–	0.01	15	90	5	150	15	1.3	150
2N2102 65 V 2N1613—More Linear, Low Leakage & V_{CE}(sat)	65	80	–	10 min.	20 min.	35 min.	–	40-120	25 min.	10 min.	0.002	200	60	0.5	150	15	1.1	150
2N2270 45 V 2N697—Higher h_{FE}, Lower Leakage and V_{CE}(sat)	45	60	–	–	–	–	–	50-200	–	–	0.1	50	60	0.9	150	15	1.2	150
2N2405 High Voltage, High Beta 2N2102	90	120	–	–	–	35 min.	–	60-200	25 min.	–	0.01	10	90	0.5	150	15	1.1	150
2N3053 40 V, General Purpose, Low Cost	40	50	60	–	–	–	–	50-250	–	–	0.25	–	30	1.4	150	15	1.7	150
AUDIO TYPES																
40309 Driver, 2-W Mobile Radio Amplifier	18	–	–	–	–	–	70-350	–	–	–	0.25	1000	15	–	–	–	1	50
40311 Driver, 5-W Class A Amplifier	30	–	–	–	–	–	70-350	–	–	–	0.25	1000	15	–	–	–	1	50
40314 Complementary Driver for 10-W Class AB Amplifier	40	–	–	–	–	–	70-350	–	–	–	0.25	1000	15	1.4	150	15	1	50
40315 Driver, 10-W Class B Amplifier	35	–	–	–	–	–	70-350	–	–	–	0.25	1000	15	–	–	–	1	50
40317 Driver, 10-W Class B, AC/DC Amplifier	40	–	–	–	–	40-200	–	–	–	–	0.25	1000	15	–	–	–	1	10
40320 Driver, 25-W AC/DC Amplifier	40	–	–	–	–	40-200	–	–	–	–	0.25	1000	15	–	–	–	1	10
40544 Driver, 25-W Comp. Amplifier	–	50	–	–	–	–	35-200	–	–	–	10	–	40	1	150	15	1.7	50
40326 Predriver for 35-W Class B AC/DC PA Amplifier	40	–	–	–	–	40-200	–	–	–	–	0.25	1000	15	–	–	–	1	10
40360 Predriver for 35-W Class AB Amplifier	70	–	–	–	–	40-200	–	–	–	–	1■	250■	60	1.4	150	15	1	10
40361 Complementary driver for 35-W Class AB Amplifier	–	70	–	–	–	–	70-350	–	–	–	1	100	60	1.4	150	15	1	50
40323 Predriver for 50-W Class B PA Amplifier	18	–	–	–	–	–	70-350	–	–	–	0.25	1000	15	–	–	–	1	50
40407 Predriver for 70-W Class AB Amplifier	50	–	–	–	40-200 @ 1 mA	–	–	–	–	–	0.25	–	10	–	–	–	0.8	1
40408 Predriver for 70-W Class AB Amplifier	90	–	–	–	–	40-200	–	–	–	–	1■	250■	80	1.4	150	15	1	10
40409 Complementary Driver for 70-W Class AB Amplifier	–	90	–	–	–	–	–	50-250	–	–	1▲	100▲	80	1.4	150	15	1	150
40611 Driver, 3-W True Comp. Univ. Amplifier	25	–	–	–	–	–	70-500	–	–	–	0.5	–	15	–	–	–	–	–
40616 Driver, 5- & 7-W True Comp. Univ. Amplifier	32	–	–	–	–	–	70-500	–	–	–	0.5	–	15	–	–	–	–	–
40814 Predriver for 12-W True Comp. Univ. Amplifier	45	–	–	–	–	50-250	–	–	–	–	10■	–	10	1.4	150	15	1.7	150
40625 Driver, 16-W True Comp. Univ. Amplifier	45	–	–	–	–	–	–	100-300	–	–	0.25	–	60	0.5	150	15	1	150
40628 Driver, 20-W True Comp. Univ. Amplifier	55	–	–	–	–	–	–	100-300	–	–	0.25	–	60	0.5	150	15	1	150
40635 Driver, 40-W Quasi-Comp. Univ. Amplifier	–	70	–	–	–	–	–	50-250	–	–	10▲	–	65	0.8	150	15	1.4	150
OTHER TYPES																
40389 2N3053 with Heat Radiator	40	50	60	–	–	–	–	50-250	–	–	0.25	–	30	1.4	150	15	1.7	150
40392 2N3053 with Flange	40	50	60	–	–	–	–	50-250	–	–	0.25	–	30	1.4	150	15	1.7	150
HIGH-RELIABILITY TYPES																
40366 Hi-Rel Version of 2N2102	65	80	–	10 min.	20 min.	–	–	40-120	25 min.	10 min.	0.002	–	60	0.5	150	15	1.1	150
S2N2102 NASA Hi-Rel Type	80	–	–	–	20-75	50-150	–	40-120	25-75	10-40	0.002	–	60	0.5	150	15	1.1	150

Note: All the above types are available with radiator or flange:
Radiator improves $R_{\theta JA}$ from 175°C/W to 50°C/W
Flange improves $R_{\theta JC}$ from 35°C/W to 25°C/W

*All "2N" types and 40407, h_{FE} measured at V_{CE} = 10 V All other types h_{FE} measured at V_{CE} = 4 V

▲I_{CER} @ V_{CE} ■I_{CEO} @ V_{CE}

2N2015 FAMILY (silicon)

f_T = 0.8 MHz typ; P_T = 150 W max

DESCRIPTION

2N TYPES

2N2015● 150-W Switch in DC-to-DC Converter
2N2016● Inverter, Chopper and Relay
2N2338 Inverter, Chopper and Relay

$V_{CEO(sus)}$ V	$V_{CER(sus)}$ V	$V_{CEV(sus)}$ V	h_{FE}	I_C A	V_{CE} V	I_{CBO}–μA Temp.–°C 25	150	V_{CB} V	$V_{CE(sat)}$–V	I_C A	I_B A	V_{BE}–V	I_C A
50	–	100	15-50	5	4	50	2000	30	1.25	5	0.5	2.2	5
65	–	130	15-50	5	4	50	2000	30	1.25	5	0.5	2.2	5
40	–	60	15-60	3	4	200	3000	30	1.5	3	0.3	3	3

■JAN types available

TO-36

2N2895 FAMILY (silicon)

f_T = 100 MHz min; P_T = 1.8 W max

2N TYPES

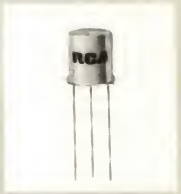
2N718A Small-Signal
2N720A Small-Signal
2N2895 Small-Signal
2N2896 Small-Signal
2N2897 Small-Signal

32	50	–	40-120	150	10	0.01	10	60	1.5	150	15	1.3	150
80	100	–	40-120	150	10	0.01	15	90	5	150	15	1.3	150
65	80	–	40-120	150	10	0.002	2	60	0.6	150	15	1.2	150
90	140	–	60-200	150	10	0.01	10	90	0.6	150	15	1.2	150
45	60	–	50-200	150	10	0.05	50	60	1	150	15	1.3	150

OTHER TYPES

40084 Small-Signal

40	50	–	50-250	150	10	0.25	–	30	1.4	150	15	1.7	150



TO-18

2N3054 FAMILY (silicon)

f_T = 0.8 MHz min; P up to 50 W max

2N TYPES

2N6260 40-V 29-W Hometaxial-Base, General Purpose
2N3054 55-V 25-W Hometaxial-Base, General Purpose
2N6261 80-V 50-W Hometaxial-Base, General Purpose

40	–	50	20-100	1.5	4	1▲	5▲	30	1.5	1.3	0.15	2.2	1.5
55	60	90	25-100	0.5	4	1■	6■	90	1	0.5	0.05	1.7	0.5
80	85	90	25-100	1.5	2	0.5●	1●	80	0.5	1.5	0.15	1.5	1.5

AUDIO TYPES

40310 Output, 2-W Mobile Radio Amplifier
40312 Output, 5-W Class A Amplifier
40316 Output, 10-W Class B Amplifier
40324 Driver, 50-W Class B PA Amplifier

35	–	–	20-120	1	2	10	5000	15	–	–	–	1.4	1
–	60	–	20-120	1	2	10	5000	15	–	–	–	1.4	1
–	40	–	20-120	1	2	10	5000	15	–	–	–	1.4	1
35	–	–	20-120	1	2	10	5000	15	–	–	–	1.4	1

OTHER TYPES

40250 40-V 25-W Hometaxial-Base
40372 2N3054 with Heat Radiator*

40	–	50	25-100	1.5	4	1	5	30	1.5	1.5	0.15	2.2	1.5
55	60	90	25-100	0.5	4	1■	6■	90	1	0.5	0.05	1.7	0.5

TO-66

■I_{CEV}–mA @ V_{CE} ●I_{CEX}–mA @ V_{CE} ▲I_{CBO}–mA *Radiator changes $R_{\theta JA}$ from 65°C/W to 30°C/W

40910–2N6260 with Heat Radiator* 40911–2N6261 with Heat Radiator*

2N3055 FAMILY (silicon)

f_T = 0.8 MHz min; P_T up to 150 W max

TO-3

DESCRIPTION	V_{CEO}(sus) V	V_{CER}(sus) V	V_{CEV}(sus) V	h_{FE}	I_C A	V_{CE} V	I_{CEX}–mA Temp.–°C 25	150	V_{CE} V	V_{CE}(sat)–V I_C A	I_B A	V_{BE}–V I_C A
2N TYPES												
2N6253 115-W Hometaxial-Base, General Purpose	45	55	55	20-70	3	2	1	10	45	1	3	0.3	1.7	3
2N3055■ 115-W Hometaxial-Base, General Purpose	60	70	90	20-70	4	4	5	30	100	1.1	4	0.4	1.8	4
2N6254 150-W Hometaxial-Base, General Purpose	80	85	90	20-70	5	4	0.5	5	100	0.5	5	0.5	1.5	5
AUDIO TYPES												
40363 Output, 35-W Class AB Amplifier	–	70	–	20-70	4	4	1▲	10▲	60	1.1	4	0.4	1.8	4
40325 Output, 50-W Class B PA Amplifier	35	–	35	12-60	8	4	5●	10●	30	1.5	8	0.8	2	8
40636 Output, 70-W Quasi-Comp. Univ. Amp.	–	95	–	20-70	4	4	0.5	–	85	1	4	0.4	1.4	4
OTHER TYPES												
40251 40-V, 117-W Hometaxial-Base	40	–	50	15-60	8	4	2*	10*	40	1.5	8	0.8	2.2	8

■JAN & JAN TX types available. ▲I_{CBO} @ V_{CB} *I_{CEV}

2N3264 FAMILY (silicon)

f_T = 20 MHz min; P_T = 84 W max

Radial

2N TYPES													
2N3263 High-Current	90	110	150	25-75	15	3	20	–	150	0.75	15	1.2	1.6	15
2N3264 High-Current	60	80	120	20-80	15	3	20	–	120	1.2	15	1.2	1.8	15

2N3266 FAMILY (silicon)

f_T = 20 MHz min; P_T = 125 W max

TO-63

2N TYPES													
2N3265 High-Current	90	110	150	25-75	15	3	20	–	150	0.75	15	1.2	1.6	15
2N3266 High-Current	60	80	120	20-80	15	3	20	–	120	1.2	15	1.2	1.8	15

2N3439 FAMILY (silicon)

f_T = 15 MHz min; P_T = 10 W max

TO-5

2N TYPES													
2N3440● High Frequency Response, Fast Switch	250	300	–	40-160	20	10	500■	–	300	0.5	50	4	1.3	50
2N3439● High Frequency Response, Fast Switch	350	400	–	40-160	20	10	500■	–	450	0.5	50	4	1.3	50
2N4063 2N3439 with Flange	350	–	–	40-160	20	10	500■	–	450	0.5	50	4	1.3	50
2N4064 2N3440 with Flange	250	–	–	40-160	20	10	500■	–	300	0.5	50	4	1.3	50
AUDIO TYPES													
40321 Driver, 25-W Class B AC/DC Amplifier	–	300	–	25-200	20	10	100▲	–	150	–	–	–	2	50
40327 Driver, 35-W Class B AC/DC PA Amplifier	–	300	–	40-250	20	10	100▲	–	150	–	–	–	2	50
OTHER TYPES													
40346 2N3440 "Nixie tube" Driver, Operational Amp.	–	175	–	25 min.	10	10	10■	100	200	0.5	10	1	1	10
40390 2N3440 with Heat Radiator*	250	–	–	40-160	10	10	500■	–	300	0.5	50	4	1.3	50
HIGH-RELIABILITY TYPES													
40385 Hi-Rel Version of 2N3439	350	–	–	40-160	10	10	500■	–	450	0.5	50	4	1.3	50

●JAN & JAN TX types available. ▲I_{CBO}–μA @ V_{CB} ■I_{CEV}–μA *Radiator improves $R_{\theta JA}$ from 150°C/W to 45°C/W

2N3441 FAMILY (silicon)

f_T = 1.2 MHz typ; P_T up to 50 W max

DESCRIPTION	V_{CEO}(sus) V	V_{CER}(sus) V	V_{CEV}(sus) V	h_{FE}	I_C A	V_{CE} V	I_{CEV}–mA Temp.–°C 25	150	V_{CE} V	V_{CE}(sat)–V	I_C A	I_B A	V_{BE}–V	I_C A
2N TYPES														
2N6263 120-V, 20-W Hometaxial-Base	120	130	140	20-100	0.5	4	2	10	120	1.2	0.5	0.05	2	0.5
2N3441● 140-V, 25-W Hometaxial-Base	140	150	160	25-100	0.5	4	1	5	140	1	0.5	0.05	1.7	0.5
2N6264 150-V, 50-W Hometaxial-Base	150	160	170	20-60	1	2	0.05	1	150	0.5	1	0.1	1.5	1
OTHER TYPES														
40373 2N3441 with Heat Radiator*	140	150	160	25-100	0.5	4	1	5	140	1	0.5	0.05	1.7	0.5

●JAN type available *Radiator improves $R_{\theta JA}$ from 65°C/W to 30°C/W

TO-66

2N3442 FAMILY (silicon)

f_T = 0.8 MHz typ; P_T up to 150 W max

2N TYPES													
2N4347 120-V, 100-W Hometaxial-Base	120	–	140	20-70	2	4	2	10	120	1	2	0.2	2	2
2N3442● 140-V, 117-W Hometaxial-Base	140	–	160	20-70	3	4	1	10	140	1	3	0.3	1.7	3
2N6262 150-V, 150-W Hometaxial-Base	150	160	170	20-70	3	2	0.1	2	150	0.5	3	0.3	1	3

●JAN type available

TO-3

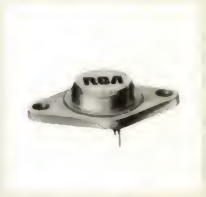
2N3585 FAMILY (silicon)

f_T = 15 MHz min; P_T = 35 W max

2N TYPES													
2N3583 High-Breakdown Voltage, Fast Switch	175	250	–	40 min.	0.1	10	1	3	225	5	1	0.1	1.4	1
2N3584● High-Breakdown Voltage, Fast Switch	250	300	–	40 min.	0.1	10	1	3	300	0.75	1	0.1	1.4	1
2N3585● High-Breakdown Voltage, Fast Switch	300	400	–	40 min.	0.1	10	1	3▲	400	0.75	1	0.1	1.4	1
2N4240 High-Breakdown Voltage, Fast Switch	300	400	–	30-150.	0.75	10	2	5▲	400	1	0.75	0.075	1.4	1
AUDIO TYPES														
40313 Output, 5-W Class A AC/DC Amplifier	–	300	–	40-250	0.1	10	10	10	300	–	–	–	1.5	0.1
40318 Output, 10-W Class B AC/DC Amplifier	–	300	–	40 min.	0.02	10	5	10	150	–	–	–	1.5	0.5
40322 Output, 25-W Class B AC/DC Amplifier	–	300	–	40 min.	0.02	10	10	10	150	–	–	–	1.5	1
40328 Output, 35-W Class B AC/DC PA Amplifier	–	300	–	40 min.	0.02	10	10	10	150	–	–	–	1.5	1
OTHER TYPES														
40433 2N4240 with Heat Radiator*	300	–	–	30-150.	0.75	10	2	5▲	400	1	0.75	0.075	1.4	1
40374 2N3583 with Heat Radiator*	175	250	–	40 min.	0.1	10	1	3	225	5	1	0.1	1.4	1
40850 Switching-Regulator for Power Supplies	300	400	–	25 min.	0.75	10	0.2	2■	450	2	2	0.4	2	2

●JAN types available. ▲I_{CEV} @ V_{CE} = 300 V. *Radiator improves $R_{\theta JA}$ from 70°C/W to 30°C/W. ■A_t T_C = 125°C.

40912–2N6263 with Heat Radiator* 40913–2N6264 with Heat Radiator*



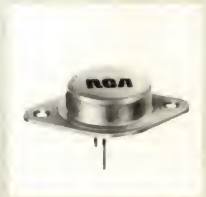
TO-66

2N3772 FAMILY (silicon)

f_T = 0.8 MHz min; P_T up to 250 W max

2N TYPES													
2N6257 High-Current, General Purpose	40	45	50	15-75	8	4	4	20	45	1.5	8	0.8	2.2	8
2N3771■ High-Current, General Purpose	40	45	50	15-60	15	4	2	10	50	2	15	1.5	2.7	15
2N3772■ High-Current, General Purpose	60	70	80	15-60	10	4	5	10	100	1.4	10	1	2.2	10
2N6258 High-Current, General Purpose	80	85	90	20-60	15	2	1	10	100	0.75	15	1.5	2	20
AUDIO TYPES														
40411 Output, 70-W Class AB Amplifier	–	90	–	35-100	4	4	0.5●	2●	80	0.8	4	0.4	1.2	4

■JAN & JAN TX types available. ●I_{CER}



TO-3

2N3773 FAMILY (silicon)

f_T = 0.7 MHz typ; P_T up to 250 W max

DESCRIPTION	V_{CEO}(sus) V	V_{CER}(sus) V	V_{CEV}(sus) V	h_{FE}	I_C A	V_{CE} V	I_{CEV}–mA Temp.–°C 25	150	V_{CE} V	V_{CE}(sat)–V	I_C A	I_B A	V_{BE}–V	I_C A
2N TYPES														
2N4348 High-Current High Voltage, General Purpose	120	140	140	15-60	5	4	2	10●	125	1	5	0.5	2	5
2N3773 High-Current High Voltage, General Purpose	140	160	160	15-60	8	4	2	10▲	140	1.4	8	0.8	2.2	8
2N6259 High-Current High Voltage, General Purpose	150	160	170	15-60	8	2	0.2	4	150	1	8	0.8	2	8

●At V_{CE} = 120 V ▲At V_{CE} = 30 V

TO-3

2N3879 FAMILY (silicon)

f_T = 60 MHz min; P_T = 35 W max

2N TYPES														
2N3878 Audio, Ultrasonic Amplifiers and RF	50	60	–	50-200	0.5	5	4	4	100	2	4	0.5	2.5	4
2N3879 High-Current High-Speed Switch	75	90	–	20-80	4	5	4	4	100	1.2	4	0.4	1.8	4
2N5202 High-Current High-Speed Switch	–	75	–	10-100	4	1.2	10	10	100	1.2	4	0.4	1.9	4
AUDIO TYPES														
40364 Output, 20-W Class AB Amplifier	–	60	–	35-175	0.5	5	0.5	2	50	2	2.5	0.25	1.8	2.5
OTHER TYPES														
40375 2N3878 with Heat Radiator*	50	60	–	50-200	0.5	5	4	4	100	2	4	0.5	2.5	4

*Radiator improves $R_{\theta JA}$ from 70°C/W to 30°C/W

TO-66

2N4036 FAMILY [PNP] (silicon)

f_T = 60 MHz min; P_T up to 7 W max

2N TYPES														
2N4036 PNP Complement of 2N2102	-65	-85	-85	40-140	-0.15	-10	-0.02●	–	-60	-0.65	-0.15	-0.015	-1.1	-0.15
2N4037 PNP Complement of 2N3053	-40	-60	-60	50-250	-0.15	-10	-0.25●	–	-60	-1.4	-0.15	-0.015	-1.5	-0.15
2N4314 Low Cost, High Voltage	-65	-85	-85	50-250	-0.15	-10	-0.25●	–	-60	-1.4	-0.15	-0.015	-1.5	-0.15
AUDIO TYPES														
40537 Driver, 3.5-W Intercom Amplifier	–	-55	–	50-300	-0.05	-4	-10▲	–	-45	-1.1	-0.05	-0.005	-1.8	-0.05
40319 Complementary driver for 10-W Class AB Amplifier	-40	–	–	35-200	-0.05	-4	-0.25●	-1●	-15	-1.4	-0.15	-0.015	-1	-0.05
40362 Complementary driver for 20-W Class AB Amplifier	–	-70	–	35-200	-0.05	-4	-1▲	-100▲	-60	-1.4	-0.05	-0.005	-1	-0.05
40815 Driver, 12-W True Comp. Univ. Amplifier	–	-45	–	70-250	-0.15	-1	-10▲	–	-40	-1.4	-0.15	-0.015	-1.5	-0.15
40406 Input, 70-W Class AB Amplifier	-50	–	–	30-200	-0.001	-10	-1■	-10■	-40	–	–	–	-0.8	-0.001
40410 Complementary driver for 70-W Class AB Amplifier	–	-90	–	50-250	-0.15	-4	-1▲	-100▲	-80	-1.4	-0.15	-0.015	-1	-0.15
40634 Driver, 40-W Quasi-Comp. Univ. Amplifier	–	-75	–	50-250	-0.15	-4	-10▲	–	-65	-0.8	-0.15	-0.015	-1.4	-0.15
OTHER TYPES														
40391 2N4037 with Heat Radiator*	-40	-60	-60	50-250	-0.15	-10	-0.25●	-50●	-60	-1.4	-0.15	-0.015	-1.5	-0.15
40394 2N4037 with Flange	-40	-60	-60	50-250	-0.15	-10	-0.25●	-50●	-60	-1.4	-0.15	-0.015	-1.5	-0.15
40437 Low Beta, Relaxed Leakage, 2N4037	-40	-60	-60	20-70	-0.15	-10	-0.25●	-50●	-60	-1.4	-0.15	-0.015	-1.5	-0.15

●I_{CBO}–μA @ V_{CB} ▲I_{CER}–μA ■I_{CEO}–μA *Radiator improves $R_{\theta JA}$ from 175°C/W to 50°C/W.

TO-5

2N5039 FAMILY (silicon)

f_T = 60 MHz min; P_T = 140 W max

DESCRIPTION	V_{CEO}(sus) V	V_{CER}(sus) V	V_{CEV}(sus) V	h_{FE}	I_C A	V_{CE} V	I_{CEV}–mA Temp.–°C 25	150	V_{CE} V	V_{CE}(sat)–V	I_C A	I_B A	V_{BE}–V	I_C A
2N TYPES														
2N5038■ High-Current, High-Speed Switch	90	110	150▲	20-100	12	5	10	–	100	1	12	1.2	1.8	12
2N5039■ High-Current, High-Speed Switch	75	95	120▲	20-100	10	5	10	–	85	1	10	1	1.8	10

■JAN & JAN TX types available. ▲V_{CEX}(sus).

TO-3

2N5240 FAMILY (silicon)

f_T = 5 MHz min; P_T = 100 W max

2N TYPES														
2N5239 Multiple Epitaxial	225	250	–	20-80	2	10	4	–	300	2.5	2	0.2	3	2
2N5240 Multiple Epitaxial	300	350	–	20-80	2	10	2	–	200	2.5	2	0.2	3	2

TO-3

2N5262 FAMILY (silicon)

f_T = 250 MHz min; P_T = 5 W max

2N TYPES														
2N5189 Memory Driver, Fast Switch	35	–	–	15 max.	1	1	0.5●	–	30	1	1	0.1	1.5	1
2N5262 Core- and Line-Driver, Fast Switch	50	–	–	25 min.	1	1	1	–	30	0.8	1	0.1	1.4	1

●I_{CBO}

Lo Profile TO-39

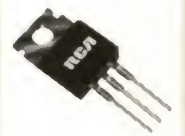
2N5298 PLASTIC FAMILY (silicon)

f_T = 0.8 MHz min; P_T = 36 W max

2N TYPES														
2N5293 Hometaxial-Base, TO-220 AA	70	75	80	30-120	0.5	4	0.5	3	65	1	0.5	0.05	1.1	0.5
2N5294 Hometaxial-Base, TO-220 AB	70	75	80	30-120	0.5	4	0.5	3	65	1	0.5	0.05	1.1	0.5
2N5295 Hometaxial-Base, TO-220 AA	40	50	60	30-120	1	4	2	5	35	1	1	0.1	1.3	1
2N5296 Hometaxial-Base, TO-220 AB	40	50	60	30-120	1	4	2	5	35	1	1	0.1	1.3	1
2N5297 Hometaxial-Base, TO-220 AA	60	70	80	20-80	1.5	4	0.5	3	65	1	1.5	0.15	1.5	1.5
2N5298 Hometaxial-Base, TO-220 AB	60	70	80	20-80	1.5	4	0.5	3	65	1	1.5	0.15	1.5	1.5
AUDIO TYPES														
40613 Output 3-W True Comp. Univ. Amplifier -	25	–	–	30-120	1000	4	2▲	–	25	1	1000	100	1.3	1000
40618 Output 5-W True Comp. Univ. Amplifier	30	–	–	30-120	1000	4	2▲	–	30	1	1000	100	1.3	1000
40621 Output 7-W True Comp. Univ. Amplifier	32	–	–	25-100	1500	4	0.5▲	–	30	1	1500	150	1.5	1500
40622 Output 12-W True Comp. Univ. Amplifier	40	–	–	25-100	1500	4	0.5▲	–	40	1	1500	150	1.5	1500
40629 Output 5-W Quasi-Comp. Univ. Amplifier	–	35	–	20-70	1000	4	0.5▲	–	30	1	1000	100	1.3	1000
40630 Output 7-W Quasi-Comp. Univ. Amplifier	–	40	–	20-70	1500	4	0.5▲	–	35	1	1500	150	1.4	1500
40631 Output 10- & 12-W Quasi-Comp. Univ. Amplifier	–	45	–	20-70	2000	4	0.5▲	–	40	1	2000	200	1.5	2000

▲I_{CER}

TO-220 AA



TO-220 AB

VERSAWATT

2N5320 FAMILY (silicon)

f_T = 50 MHz min; P_T = 10 W max

2N TYPES														
2N5320 NPN Complement of 2N5322	75	90	100	30-130	500	4	0.5●	–	80	0.5	500	0.5	1.1	500
2N5321 NPN Complement of 2N5323	50	65	75	40-250	500	4	5●	–	60	0.8	500	0.5	1.4	500
AUDIO TYPES														
40539 Output 3.5-W Amplifier, Complement of 40538	–	55	–	15-190	500	4	10▲	–	45	2	500	50	2.7	500
40594 Driver, 70-W Quasi-Comp. Univ. Amplifier	–	95	–	70-350	300	4	10▲	–	85	0.8	300	0.3	1.4	300

●I_{CBO} ▲I_{CER}–μA

TO-5

2N5322 FAMILY [PNP] (silicon)

f_T = 50 MHz min; P_T = 10 max

TO-5

DESCRIPTION	V_{CEO}(sus) V	V_{CER}(sus) V	V_{CEV}(sus) V	h_{FE}	I_C mA	V_{CE} V	I_{CER}–mA Temp.–°C 25	150	V_{CE} V	V_{CE}(sat)–V I_C mA	I_B A	V_{BE}–V I_C mA
2N TYPES												
2N5322 PNP Complement of 2N5320	-75	-90	-100	30-130	-500	-4	-0.5●	–	-80	-0.7	-500	-0.5	-1.1	-500
2N5323 PNP Complement of 2N5321	-50	-65	-75	40-250	-500	-4	-5●	–	-60	-1.2	-500	-0.5	-1.4	-500
AUDIO TYPES												
40538 Output, 3.5-W Amplifier, Complement of 40539	–	-55	–	15-90	-500	-4	-10▲	–	-45	-2	-500	-0.5	-2.7	-500
40595 Driver, 70-W Quasi-Comp. Amplifier	–	-95	–	70-350	-300	-4	-10▲	–	-85	-0.8	-300	-0.3	-1.4	-300

●I_{CBO} ▲I_{CER}–μA

2N5415 FAMILY [PNP] (silicon)

f_T = 15 MHz min; P_T = 10 W max

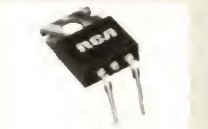
TO-5

2N TYPES														
2N5415 PNP Complement of 2N3440	-200	–	–	30-150	-50	-10	-50■	–	-200	-2.5	-50	-5	-1.5	-50
2N5416 PNP Complement of 2N3439	-300	-350	–	30-120	-50	-10	-50■	–	-300	-2	-50	-5	-1.5	-50

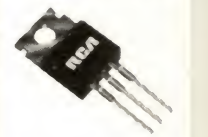
■I_{CEV}–μA

2N5496 PLASTIC FAMILY (silicon)

f_T = 0.8 MHz min; P_T = 50 W max



TO-220 AA



TO-220 AB

VERSAWATT

2N TYPES														
2N5490 Hometaxial-Base, TO-220 AB	40	50	60	20-100	2	4	2	5	40	1	2	0.2	1.1	2
2N5491 Hometaxial-Base, TO-220 AA	40	50	60	20-100	2	4	2	5	40	1	2	0.2	1.1	2
2N5492 Hometaxial-Base, TO-220 AB	55	65	75	20-100	2.5	4	0.5	3.5	55	1	2.5	0.25	1.3	2.5
2N5493 Hometaxial-Base, TO-220 AA	55	65	75	20-100	2.5	4	0.5	3.5	55	1	2.5	0.25	1.3	2.5
2N5494 Hometaxial-Base, TO-220 AB	40	50	60	20-100	3	4	0.5	3.5	40	1	3	0.3	1.5	3
2N5495 Hometaxial-Base, TO-220 AA	40	50	60	20-100	3	4	0.5	3.5	40	1	3	0.3	1.5	3
2N5496 Hometaxial-Base, TO-220 AB	70	80	90	20-100	3.5	4	0.5	3.5	70	1	3.5	0.35	1.7	3.5
2N5497 Hometaxial-Base, TO-220 AA	70	80	90	20-100	3.5	4	0.5	3.5	70	1	3.5	0.35	1.7	3.5
AUDIO TYPES														
40816 Output, 12-W True Comp. Univ. Amplifier	–	45	–	35-150	2	1	0.5	–	40	1	3.5	0.35	1.7	3.5
40624 Output, 16-W True Comp. Univ. Amplifier	45	–	–	20-100	2.5	4	0.5	–	45	1	2.5	0.25	1.7	2.5
40627 Output, 20-W True Comp. Univ. Amplifier	55	–	–	20-100	2.5	4	0.5	–	55	1	2.5	0.25	1.7	2.5
40632 Output, 25-W Quasi-Comp. Univ. Amplifier	–	60	–	20-100	3	4	0.5	–	50	1	3	0.3	1.4	3

2N5580 FAMILY (silicon)

f_T = 0.4 MHz min; P_T = 300 W max

Modified TO-3

2N TYPES													
2N5575 High-Current, High-Power	50	–	70▲	10-40	60	4	10	–	60	2	60	–	3	60
2N5576 High-Current, High-Power	50	–	70▲	10-40	60	4	10	–	60	2	60	–	3	60
2N5577 High-Current, High-Power	50	–	70▲	10-40	60	4	10	–	60	2	60	–	3	60
2N5578 High-Current, High-Power	70	–	90▲	10-40	40	4	10	–	80	1.5	40	–	2.5	40
2N5579 High-Current, High-Power	70	–	90▲	10-40	40	4	10	–	80	1.5	40	–	2.5	40
2N5580 High-Current, High-Power	70	–	90▲	10-40	40	4	10	–	80	1.5	40	–	2.5	40

▲V_{CEX}(sus)

2N5672 FAMILY (silicon)

f_T = 50 MHz min; P_T = 140 W max

DESCRIPTION

2N TYPES

2N5671 High-Current, High-Speed
2N5672 High-Current, High-Speed

V_{CEO}(sus) V	V_{CER}(sus) V	V_{CEV}(sus) V	h_{FE}			I_{CER}–mA Temp.–°C 25	150	V_{CE} V	V_{CE}(sat)–V			V_{BE}–V	
				I_C A	V_{CE} V					I_C A	I_B A		I_C A
90	110	120▲	20-100	15	2	12■	–	110	0.75	15	1.2	1.6	15
120	140	150▲	20-100	15	2	10■	–	135	0.75	15	1.2	1.6	15

▲V_{CEX}(sus) ■I_{CEV}

TO-3

2N5783 FAMILY [PNP] (silicon)

f_T = 8 MHz min; P_T = 10 W max

2N TYPES

2N5783 PNP Complement of 2N5786
2N5782 PNP Complement of 2N5785
2N5781 PNP Complement of 2N5784

-40	-45	–	20-100	-1.6	-2	-10▲	-1	-40	-1	-1.6	-0.16	-1.5	-1.6
-50	-65	–	20-100	-1.2	-2	-10▲	-1	-50	-0.75	-1.2	-0.12	-1.5	-1.2
-65	-80	–	20-100	-1	-2	-10▲	-1	-65	-0.5	-1	-0.1	-1.5	-1

▲I_{CER}–μA

TO-5

2N5786 FAMILY (silicon)

f_T = 1 MHz min; P_T = 10 W max

2N TYPES

2N5786 NPN Complement of 2N5783
2N5785 NPN Complement of 2N5782
2N5784 NPN Complement of 2N5781

40	45	–	20-100	1.6	2	10▲	1	40	1	1.6	0.16	1.5	1.6
50	65	–	20-100	1.2	2	10▲	1	50	0.75	1.2	0.12	1.5	1.2
65	80	–	20-100	1	2	10▲	1	65	0.5	1	0.1	1.5	1

▲I_{CER}–μA

TO-5

2N5805 FAMILY (silicon)

f_T = 15 MHz min; P_T = 110 W max

2N TYPES

2N5804 High Voltage, Fast Switch
2N5805 High Voltage, Fast Switch

OTHER TYPES

40840 High Voltage, Fast Switch
40853 Switching-Regulator for Power Supplies

225	300	–	10-100	5	4	5●	15■	270	2	5	0.5	2	5
300	375	–	10-100	5	4	5●	15■	340	2	5	0.5	2	5
300	375	–	10-100	4	3	5●	–	450	1.5	4	0.4	1.5	4
300	375	–	10 min.	5	4	1●	10▲	450	3	8	0.8	2	8

●I_{CEV} ■I_{CEV} @ 100°C ▲I_{CEV} @ 125°C

TO-3

2N5840 FAMILY (silicon)

f_T = 5 MHz min; P_T = 100 W max

2N TYPES

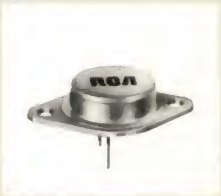
2N5838 High Voltage, Fast Switch
2N5839 High Voltage, Fast Switch
2N5840 High Voltage, Fast Switch

OTHER TYPES

410 High Voltage, Inverter Applications
411 High Voltage, Inverter Applications
413 High Voltage, Inverter Applications
423 High Voltage, Inverter Applications
431 High Voltage, Inverter Applications
40852 Switching-Regulator for Power Supplies

250	275	275	8-40	3	2	5●	8■	265	1	3	0.375	2	3
275	300	300	10-50	2	3	2●	5■	290	1.5	2	0.2	2	2
350	375	375	10-50	2	3	2●	5■	360	1.5	2	0.2	2	2
200	–	–	30-190	1	5	0.25*	0.5▲	200	0.8	1	0.1	1.5	1
300	–	–	30-190	1	5	0.25	0.5▲	300	0.8	1	0.1	1.5	1
325	–	–	20-80	0.5	5	0.25	0.5▲	400	0.8	0.5	0.05	1.5	0.5
325	–	–	30-90	1	5	0.25	0.5▲	400	0.8	1	0.1	1.5	1
325	–	–	15-35	2.5	5	2.5	5▲	400	0.7	2.5	0.5	1.5	2.5
350	375	–	12 min.	1.2	1	0.5●	5▲	450	3	4	0.8	2	4

●I_{CEV} ■I_{CEV} @ 100°C *I_{CEO} ▲I_{CEV} @ 125°C



TO-3

2N5956 FAMILY [PNP] (silicon)

f_T = 5 MHz min; P_T = 40 W max

DESCRIPTION

2N TYPES

2N5956 General Purpose, Medium Power
2N5955 General Purpose, Medium Power
2N5954 General Purpose, Medium Power

OTHER TYPES

40831 2N5956 with Heat Radiator
40830 2N5955 with Heat Radiator
40829 2N5954 with Heat Radiator

$V_{CEO}(sus)$ V	$V_{CER}(sus)$ V	$V_{CEV}(sus)$ V	h_{FE}	I_C A	V_{CE} V	I_{CER}–mA Temp.–°C 25	150	V_{CE} V	$V_{CE}(sat)$–V I_C A	I_B A	V_{BE}–V I_C A
-40	-45	-50▲	20-100	-3	-4	-100●	-2	-35	-1	-3	-0.3	-2	-3
-60	-65	-70▲	20-100	-2.5	-4	-100●	-2	-55	-1	-2.5	-0.25	-2	-2.5
-75	-80	-85▲	20-100	-2	-4	-100●	-2	-70	-1	-2	-0.2	-2	-2
-40	-45	-50▲	20-100	-3	-4	-100●	-2	-35	-1	-3	-0.3	-2	-3
-60	-65	-70▲	20-100	-2.5	-4	-100●	-2	-55	-1	-2.5	-0.25	-2	-2.5
-75	-80	-85▲	20-100	-2	-4	-100●	-2	-70	-1	-2	-0.2	-2	-2

▲$V_{CEX}(sus)$ ●I_{CER}–μA

TO-66

2N6033 FAMILY (silicon)

f_T = 50 MHz min; P_T = 140 W max

2N TYPES

2N6032 High-Current, High-Speed Switch
2N6033 High-Current, High-Speed Switch

90	110	120▲	10-50	50	2.6	12■	15■	110	1.3	50	5	2	50
120	140	150▲	10-50	40	2	10■	10■	135	1	40	4	2	40

▲$V_{CEX}(sus)$ ■I_{CEV}

Modified TO-3
(0.06 in. dia. pins)

2N6079 FAMILY (silicon)

f_T = 1 MHz min; P_T = 45 W max

2N TYPES

2N6078 High Voltage, Fast Switch
2N6077 High Voltage, Fast Switch
2N6079 High Voltage, Fast Switch

OTHER TYPES

40851 Switching-Regulator for Power Supplies

250	275	275▲	12-70	1.2	1	0.05■	0.25●	250	0.5	1.2	0.2	1.6	1.2
275	300	300▲	12-70	1.2	1	5■	8●	250	0.5	1.2	0.2	1.6	1.2
350	375	375▲	12-50	1.2	1	0.5■	5●	450	0.5	1.2	0.2	1.6	1.2
350	375	–	12 min.	1.2	1	0.5■	5●	450	3	4	0.8	2	4

▲$V_{CEX}(sus)$ ■I_{CEV} ●I_{CEV} @ 125°C

TO-66

2N6100 PLASTIC FAMILY (silicon)

f_T = 0.8 MHz min; P_T = 75 W max

2N TYPES

2N6102 Hometaxial-Base, TO-220 AA
2N6103 Hometaxial-Base, TO-220 AB
2N6098 Hometaxial-Base, TO-220 AA
2N6099 Hometaxial-Base, TO-220 AB
2N6100 Hometaxial-Base, TO-220 AA
2N6101 Hometaxial-Base, TO-220 AB

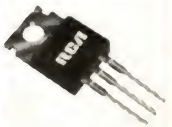
AUDIO TYPES

40884 Output, 40-W Full Comp. Univ. Amplifier

40	45	–	15-60	8	4	2▲	10▲	40	2.5	16	3.2	1.7	8
40	45	–	15-60	8	4	2▲	10▲	40	2.5	16	3.2	1.7	8
60	65	–	20-80	4	4	2▲	10▲	65	2.5	10	2	1.7	4
60	65	–	20-80	4	4	2▲	10▲	65	2.5	10	2	1.7	4
70	75	–	20-80	5	4	2▲	10▲	75	2.5	10	2	1.7	5
70	75	–	20-80	5	4	2▲	10▲	75	2.5	10	2	1.7	5
65	75	–	20-120	4	4	1	–	65	1	4	0.4	–	–

▲I_{CEX}

TO-220 AA



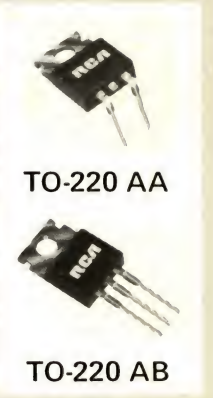
TO-220 AB

VERSAWATT

2N6106 PLASTIC FAMILY [PNP] (silicon)
f_T = 10 MHz min; P_T = 40 W max

DESCRIPTION		$V_{CEO}(sus)$ V	$V_{CER}(sus)$ V	$V_{CEV}(sus)$ V	h_{FE}	I_C A	V_{CE} V	I_{CER}–mA Temp.–°C 25	150	V_{CE} V	$V_{CE}(sat)$–V	I_C A	I_B A	V_{BE}–V	I_C A
2N TYPES															
2N6110	Hometaxial-Base, TO-220AA	-30	-40	–	30-150	-3	-4	-0.1	-2●	-35	-1	-3	-0.3	-1.5	-3
2N6111	Hometaxial-Base, TO-220AB	-30	-40	–	30-150	-3	-4	-0.1	-2●	-35	-1	-3	-0.3	-1.5	-3
2N6108	Hometaxial-Base, TO-220AA	-50	-60	–	30-150	-2.5	-4	-0.1	-2▲	-55	-1	-2.5	-0.25	-1.5	-2.5
2N6109	Hometaxial-Base, TO-220AB	-50	-60	–	30-150	-2.5	-4	-0.1	-2▲	-55	-1	-2.5	-0.25	-1.5	-2.5
2N6106	Hometaxial-Base, TO-220AA	-70	-80	–	30-150	-2	-4	-0.1	-2■	-75	-1	-2	-0.2	-1.5	-2
2N6107	Hometaxial-Base, TO-220AB	-70	-80	–	30-150	-2	-4	-0.1	-2■	-15	-1	-2	-0.2	-1.5	-2
AUDIO TYPES															
40876	Output, 25-W Full-Comp. Univ. Amplifier	-50	-60	–	20-120	-3	-4	-1	–	-50	-1	-3	-0.3	-1.5	-3
40874	General Purpose	-70	-80	–	30-150	-2	-4	-1	–	-70	-1	-2	-0.2	-1.5	-2
40872	Driver, 120-W Quasi-Comp. Univ. Amplifier	-100	-120	–	50-250	-1	-4	-1	–	-110	-1	-1	-0.1	-1.5	-1

● At V_{CE} = -30 V ▲ At V_{CE} = -50 V ■ At V_{CE} = -70 V



TO-220 AA

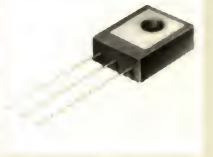
TO-220 AB

VERSAWATT

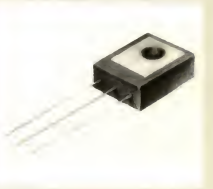
2N6177 PLASTIC FAMILY (silicon)
f_T = 20 MHz min; P_T = 20 W max

2N6175	High Frequency, Fast Switch	250	300	–	30-190	0.02	10	500■	–	300	0.5	0.05	0.004	1.3	0.05
2N6176	High Frequency, Fast Switch	300	350	–	30-150	0.02	10	500■	–	300	0.5	0.05	0.004	1.3	0.05
2N6177	High Frequency, Fast Switch	350	400	–	30-150	0.05	10	500■	–	450	0.5	0.05	0.004	1.3	0.05
OTHER TYPES															
40885	2N6175 with Heat Clip	250	300	–	30-190	0.02	10	500■	–	300	0.5	0.05	0.004	1.3	0.05
40886	2N6176 with Heat Clip	300	350	–	30-150	0.02	10	500■	–	300	0.5	0.05	0.004	1.3	0.05
40887	2N6177 with Heat Clip	350	400	–	30-150	0.05	10	500■	–	450	0.5	0.05	0.004	1.3	0.05

■ I_{CEV}–μA



Plastic TO-5



Plastic TO-5

2N6178 PLASTIC FAMILY (silicon)
f_T = 50 MHz min; P_T = 25 W max

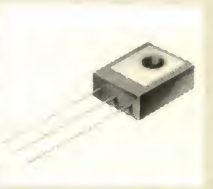
2N6179	NPN Complement of 2N6181	50	65	75	30-130	0.5	4	1●	–	60	0.5	0.5	0.05	1.1	0.5
2N6178	NPN Complement of 2N6180	75	90	100	40-250	0.5	4	1●	–	45	0.8	0.5	0.05	1.4	0.5

●I_{CEO}

2N6180 PLASTIC FAMILY [PNP] (silicon)
f_T = 50 MHz min; P_T = 25 W max

2N6181	PNP Complement of 2N6179	-50	-65	-75	30-130	-0.5	-4	-1●	–	-60	-0.5	-0.5	-0.05	-1.1	-0.5
2N6180	PNP Complement of 2N6178	-75	-90	-100	40-250	-0.5	-4	-1●	–	-45	-0.8	-0.5	-0.05	-1.4	-0.5

●I_{CEO}



Plastic TO-5

2N6213 FAMILY [PNP] (silicon)

f_T = 20 MHz min; P_T = 35 W max

DESCRIPTION		$V_{CEO}(sus)$ V	$V_{CER}(sus)$ V	$V_{CEV}(sus)$ V	h_{FE}			I_{CEV}–mA			$V_{CE}(sat)$–V			V_{BE}–V	
						I_C A	V_{CE} V	Temp.–°C 25	150	V_{CE} V		I_C A	I_B A		I_C A
2N6211	High-Breakdown Voltage, Fast Switch	-225	-250	-275▲	30-175	-1	-5	-0.5●	-5●	-250	-1.4	-1	-0.125	-1.4	-1
2N6212	High-Breakdown Voltage, Fast Switch	-300	-325	-350▲	30-175	-1	-5	-0.5●	-5●	-315	-1.6	-1	-0.125	-1.4	-1
2N6213	High-Breakdown Voltage, Fast Switch	-350	-375	-400▲	30-150	-1	-5	-0.5●	-5●	-360	-2	-1	-0.125	-1.4	-1

▲ $V_{CEX}(sus)$ ● I_{CEV}

TO-66

2N6248 FAMILY [PNP] (silicon)

f_T = 10 MHz min; P_T = 125 W max

2N6246	Epitaxial-Base, General Purpose	-60	-65	-70▲	20-100	-7	-4	-0.2●	-5■	-65	-1.25	-7	-0.7	-1.6	-7
2N6247	Epitaxial-Base, General Purpose	-80	-85	-90▲	20-100	-6	-4	-0.2●	-5*	-80	-1	-6	-0.6	-1.6	-6
2N6248	Epitaxial-Base, General Purpose	-100	-105	-110▲	20-100	-5	-4	-0.2●	-5†	-100	-1	-5	-0.5	-2	-5

▲ $V_{CEX}(sus)$ ● I_{CEX} ■ At V_{CE} = -55 V * At V_{CE} = -70 V † At V_{CE} = -90 V

TO-3

2N6251 FAMILY (silicon)

f_T = 2.5 MHz min; P_T = 175 W max

2N TYPES

2N6249	High-Voltage Switch	200	225	–	20-100	3.5	5	1.2	10	300	1	10	1	2	10
2N6250	High-Voltage Switch	275	300	–	20-100	3.5	5	1.2	10	375	1.5	10	1	2	10
2N6251	High-Voltage Switch	350	400	–	20-100	3.5	5	1.2	10	450	1.5	10	1.25	2	10

TO-3

40349 FAMILY (silicon)

f_T = 1.5 MHz min; P_T = 8.75 W max

40349	General Purpose, Low & Medium Power	140	–	160	30-125	150	4	1●	–	90	0.5	0.15	0.015	1.1	0.15

● I_{CER}–μA

TO-5

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NOTE: V1 with an RCA 40K number indicates a factory-attached heat radiator type.
V2 with an RCA 40K number indicates a factory-attached flange type.

*General Purpose type from the TA7782.
▲General Purpose type from the TA8323.
●General Purpose type from the TA8326.

RCA Solid State

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